VIRGINIA WILDLIFE

APRIL 1984 ONE DOLLAR

VIRGINIA WILDLIFE

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Dedicated to the Conservation of Virginia's Wildlife and Related Natural Resources

Volume 45, Number 4 *April 1984*

Special Fishing Issue

Special Section

See our special pages for practical tips on cleaning fish, smoking them, calculating your pond volume, and more.

Cover

Painting by R.B. Dance, Winston Salem, N.C. See more of Bob Dance's work beginning on page 17.
Back cover: Take a kid fishing! Photo by Robin Schroeder.

Special Section

Goin' Fishin'

What do you need to go fishin'? This issue of *Virginia Wildlife* with all its great fishing stories is a good start. Then, you need rods and reels, and lures and bait—and a fishing license! You can purchase your license from any one of the 650 license agents located throughout Virginia. The fee to Virginia residents is $7.50, with an additional $4.00 charge to fish in stocked trout waters. Nonresident licenses are $15.00, and $10.00 for trout.

These prices and other fishing regulations are listed in the Commission's publication *Virginia Fishing Regulations 1983 & 1984.* If you picked up one of these handy little booklets at your license agent last year—dig it out and use it again this season. The fishing rules have not changed and the booklet is valid for the 1984 fishing season.

If you're interested in ideas on where to go fishing in Virginia, write the Game Commission at 4010 West Broad Street, Richmond, Virginia 23230 for a copy of *Let's Go Freshwater Fishing.* This booklet tells you about some of the best fishing spots in the state and when to fish them. If you are going to be fishing from a boat, you might also want to write for a copy of the new *Motorboat Owner's Guide.* Both of these Game Commission publications are free. □

Trout Season Opens Noon, April 7

Oops! We goofed—in last month's issue, we said that trout season opens April 14. Of course, that's wrong—it opens the first Saturday in April which this year is April 7.

Judging by the number of calls we received about this, lots of you are primed and ready to go when that day arrives! □

How to Smoke Fish

Curing by exposure to smoke is one means of temporarily preserving fish, and of producing an appetizing flavor.

The best fish to smoke are those with high fat content, such as carp, catfish, salmon, smelt, herring, whitefish, eel and trout. There are four steps in preparing your catch: cleaning, brining, drying, and smoking.

The first step is cleaning the fish. Depending on your species, fish may be gutted and beheaded, halved, filleted, or skinned and cut into pieces. Small fish may be smoked in the round (without cleaning). Fresh fish may also be cleaned and frozen for later smoking.

After cleaning, your are ready for step two, brining the fish. Brining means steeping the fish in a solution of salt, water and spice. This process is essential before smoking; it firms the fish by removing moisture. Here are two brine recipes for hot smoked fish:

I

1 gal. water
1 lb. salt
1/2 lb. sugar
1/3 cup lemon juice
1/2 tbs. onion powder
1/4 tbs. garlic powder
1/2 tbs. seafood seasoning

II

6 gal. water
4 lbs. salt
1 1/2 lbs. sugar
1 1/2 oz. saltpeter
3 oz. whole cloves (optional)
1 oz. bay leaves (optional)
(This is enough brine for 20 pounds of fish)

Directions: Mix ingredients well. Submerge fish in brine and refrigerate 12 hours. Remove fish from brine and freshen under running water for 10 minutes.

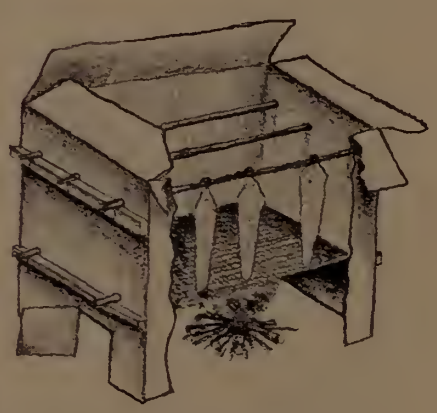
Now you are ready to dry the fish. Pat the fish dry with a cloth, then place in the refrigerator to drain for one to three hours. Drying increases keeping quality and promotes development of the "pellicil," a glossy finish of dissolved proteins on the fish which gives them the desired appearance.

The last step is the actual smoking of the fish. There are both hot and cool smoking techniques.

Cool-smoked fish require a heavier brine and a smokehouse temperature not over 90°F, in which the fish are cooked one to five days. Cool smoking is seldom done, except to preserve fish for long periods.

Hot-smoked (kippered) fish require a smoker temperature of 150 to 200 °F, but a shorter cooking time of four to five hours. Hot-smoked fish are perishable and should be refrigerated.

For either process you will need a smokehouse. Your smokehouse may be designed from a large cardboard box, a metal drum, a wooden barrel or an old refrigerator. The cardboard box is perhaps easiest to obtain; it should be 30 inches square and 48 inches high. Refer to the following diagram and building instructions.



Smokehouse

Directions:

A. Remove one end of box to form bottom of smokehouse.
B. Unfasten flaps at opposite end so they fold back and serve as a cover.
C. Strengthen box, if necessary, by tacking 3/4-inch strips of wood on outside of box—vertically at corners and horizontally across sides.
D. Cut a door 10 inches wide and 12 inches high in bottom center of one side. Make one vertical and one horizontal cut, so uncut side serves as hinge.
E. Suspend several rods or sticks (iron or wood) across top of box. Cut holes through freezer for rest on wooden strips. A rack of coarse wire mesh (heavy 1/2" or 1/4" iron or steel) may replace rods.
F. Arrange fish on rods or rack so they do not touch. Fish may be hung on "S" shaped hooks, strung through gills by rods, split and nailed to rods, or simply laid on rack. Refer to the diagrams which follow for illustrated methods. Use regular nails, 8 or 10 gauge steel wires, coat hanger wires, S-shaped iron hooks, and/or round wooden sticks.
G. Build fire on level ground with nonresinous (hickory, oak, maple, apple) wood chips or sawdust to produce light, constant volume of smoke. Never use wood containing pitch, such as pine. Liquid smoke is also less satisfactory.
H. Center smokehouse over smoldering fire and close flaps. Danger of fire is minimized if ventilation is controlled to promote smoke rather than flames.
I. Monitor fish temperatures by inserting meat thermometer into fleshiest part of fish. Maintain fish temperature of about 180°F for kippered fish. (Temperatures exceeding 200°F cause excessive drying of fish.)

Different methods for arranging fish for smoking.

Illustrations by Phyllis Saroff

J. Smoke four to five hours.

Fish are ready for serving. Fish not eaten immediately can be stored in the refrigerator or freezer for later use. Smoking fish is fun, economical, and delicious.—*Courtesy VPI & SU, Department of Food Science & Technology*

How to Calculate Your Pond Volume

by John Kauffman

"All I did was treat the weeds and now my fish are dying! Where did I go wrong?" exclaimed the pond owner as he explained his problem to me. This complaint, heard occasionally by fish biologists, is the result of the pond owner's failure to accurately determine area and volume of his pond.

A correct determination of your pond's area and volume will save you money in the long run because about 90 percent of private ponds are smaller than the landowner thinks they are! Two important management practices depend upon the owner's knowing the correct area: stocking fish and applying pond fertilizer. If you stock too many fish or apply too much fertilizer, you are wasting money and may be ruining your fishing. If you are trying to remove aquatic weeds, it is critical that you know the correct acreage and volume. An overestimate can result in wasting money and killing fish. Also, if toxic water escaped from your pond, you would be legally responsible for any down-stream fish kills and other damages. Put your money in the bank instead of legal fees.

Before you begin, make sure you know how to calculate an average. An average is the sum of all the observations divided by the number of observations. We'll use the following pond width measurements as an example: 100, 125, 182 and 28 feet.

$$\text{Average Width} = \frac{100+125+182+28}{4} = \frac{435}{4} = 109 \text{ feet}$$

Pond Area: Acreage figures for large ponds or lakes may be available from state agencies or the U.S. Soil Conservation Service, so check these sources first. For small ponds (less than 10 acres), you will probably have to determine the acreage yourself. A few items will speed up your measurements: a boat, an assistant, a tape measure and a roll of string (in areas too wide or long for your tape). Determine the average width and average length of your pond from measurements taken at uniformly spaced points (Figure 1). To determine the area in acres, multiply the average width (in feet) by the average length (in feet). This figure divided by 43,560 equals the number of acres.

$$\frac{\text{Average width (ft) x average length (ft)}}{43{,}560} = \text{Acres}$$

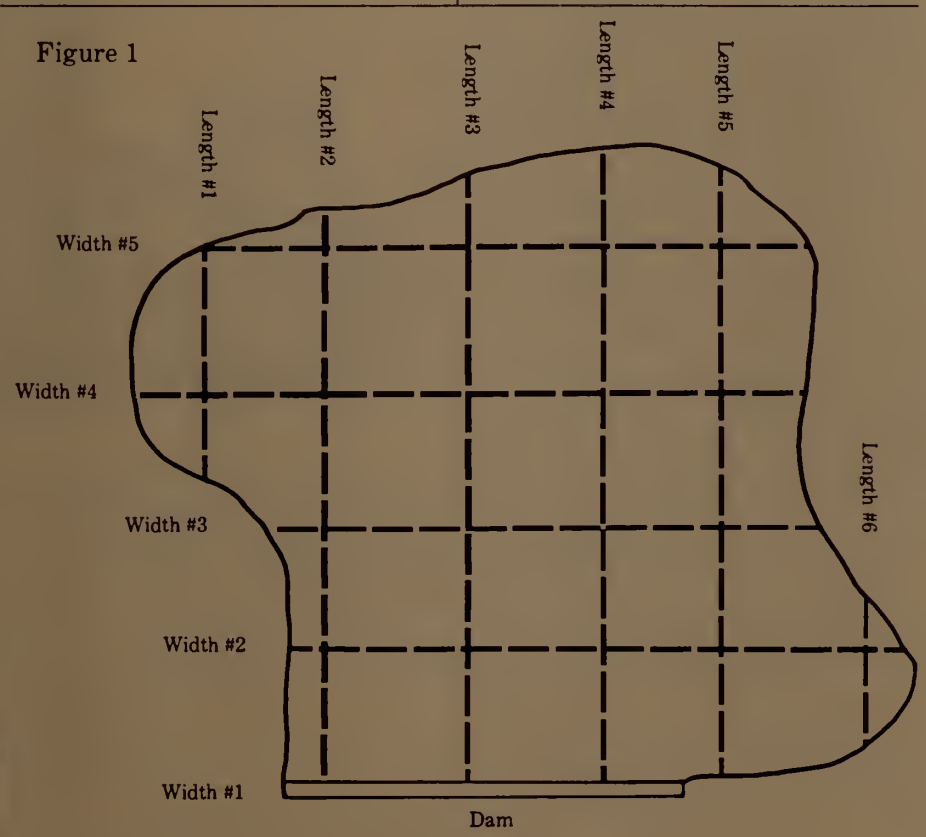
Pond Volume: Pond volumes are frequently expressed in acre-feet which is the pond area, in acres, multiplied times the average depth. Mark off foot-long readings on a long pole or a weighted rope. Measure and record the water depths wherever the length and width lines crossed (figure 1). Calculate the average depth and multiply this times the surface area. The average depth (in feet) times the surface area (in acres) equals the volume (in acre-feet). Example: the average depth is 6.2 feet and the pond is .3 acres.

.3 acres x 6.2 ft. = 1.86 acre-feet

Partial Volume: Frequently, weeds are a problem in only a portion of a lake and it makes little sense to treat the whole lake. Therefore, a partial treatment is the answer, and the volume of the area to be treated must be determined. To determine partial volume, measure the length and width of the area to be treated.

$$\frac{\text{Length x Width}}{43{,}560} = \text{Acres}$$

Figure 1



Average depth can be determined with the pole or weighted rope marked off in feet. By multiplying average depth times the area, you have the volume of the problem area of the lake.

Then, since you have gone to all this work, please store the information where you can find it. □

No Blood, Sweat & Tears, or Scales

by Rod Burke

Most fishermen, at the end of a long day of fishing, have shared the experience of being too tired to clean a stringer of fish. I must admit, at times in past years I have been guilty of a couple of common schemes used to avoid the drudgery of cleaning fish. The first scheme is simply to release the fish after unhooking it, knowing it would be a tasty meal if put on the stringer. The second scheme is to give the fish away once you get back to the boat landing at the end of the day. There's usually some unfortunate fisherman around who will jump at the opportunity to make his stringer look respectable. I have actually seen fishermen release their catch from the stringer at the end of a long day, hoping they'll survive, just to avoid the job of cleaning them when they get home! (While we encourage catch-and-release, we do *not* condone a release when it's obvious that the fish won't survive.)

Fellow fishermen, there is a fast and easy way to clean fish.

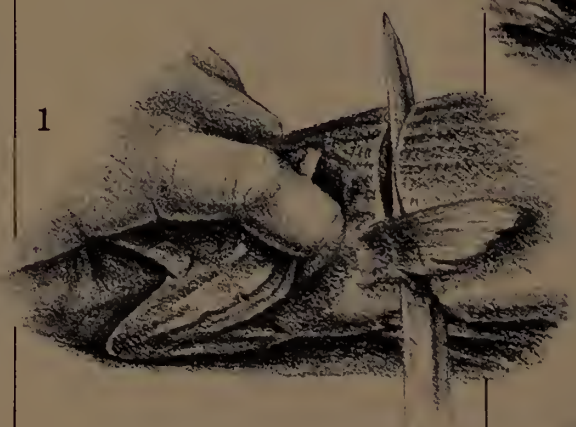
One evening, after a successful catfishing expedition, I sat on my porch staring at a stringer of chunky catfish, realizing what had to be done next. Catfish, as most fishermen know, have to be skinned. This is usually accomplished with pliers, or something similar, and a lot of effort.

On this particular occasion there were no pliers available so I considered an alternative. I decided to use my fillet knife to separate the skin from the meat, and I made an amazing discovery: an easy way to clean fish. This method can be used for almost any fish, including bass, crappie, bluegill, catfish and others. It eliminates much of the drudgery associated with fish cleaning.

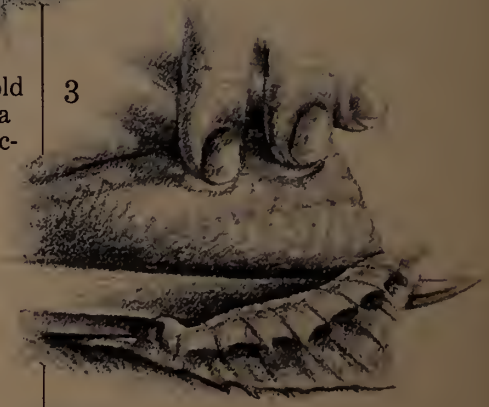
The following is a step-by-step description of the method.

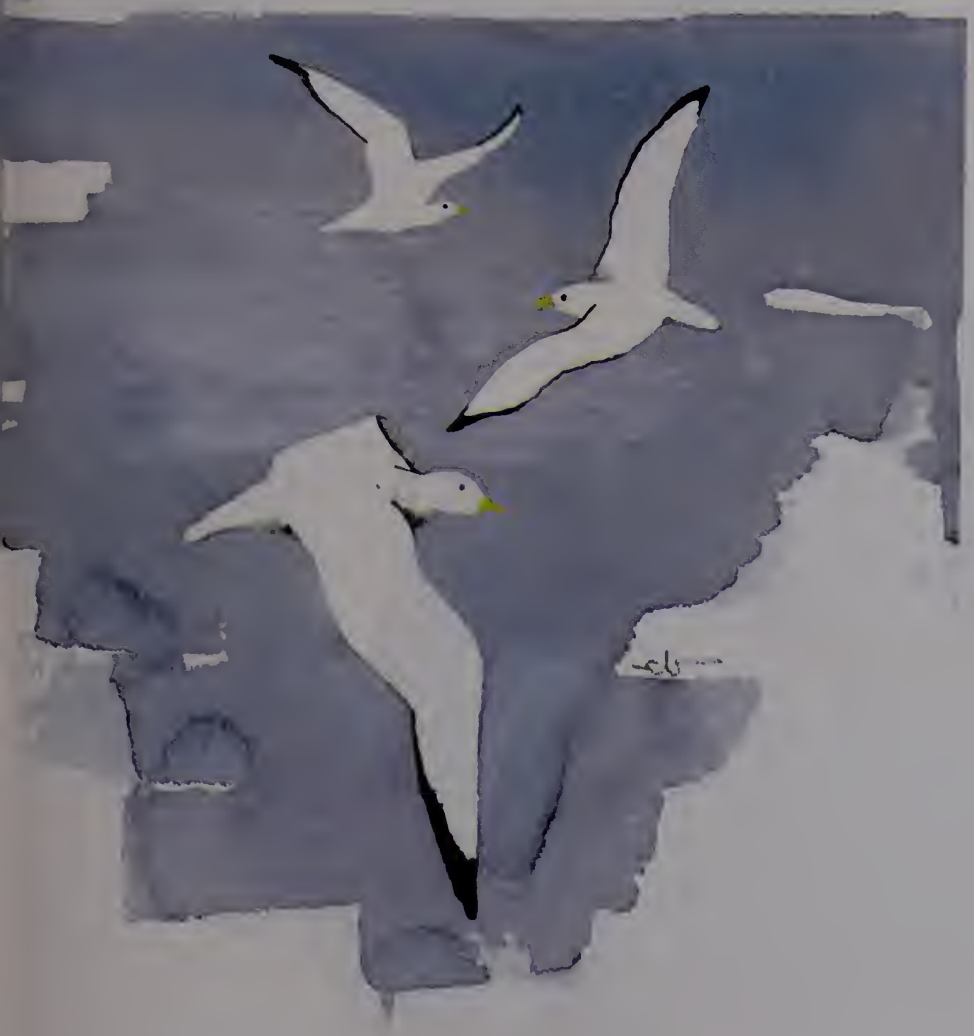
First, place the fish on its side with the head pointing toward you. Grasp the fish's head, placing your forefinger in the gill and your thumb in its mouth. This will give you a good hold on the fish as you're filleting. With a sharp fillet knife, cut behind the pectoral fin down to the backbone as shown in figure 1.

Illustrations by Phyllis Saroff



Once you feel the backbone, turn the knife away from you as you're cutting along the backbone. A sharp knife is important here because you will be cutting through the ribs as you follow the backbone down to the tail (figure 2). If you're filleting a catfish, begin your first cut just past the rib cage, looking from head to tail. This will eliminate cutting through the rib cage and is feasible on a catfish because most of its meat is





CAMPING for Giant Bluefish

Three fishermen in pursuit of fighting blues in the Chesapeake Bay simply follow the gulls.

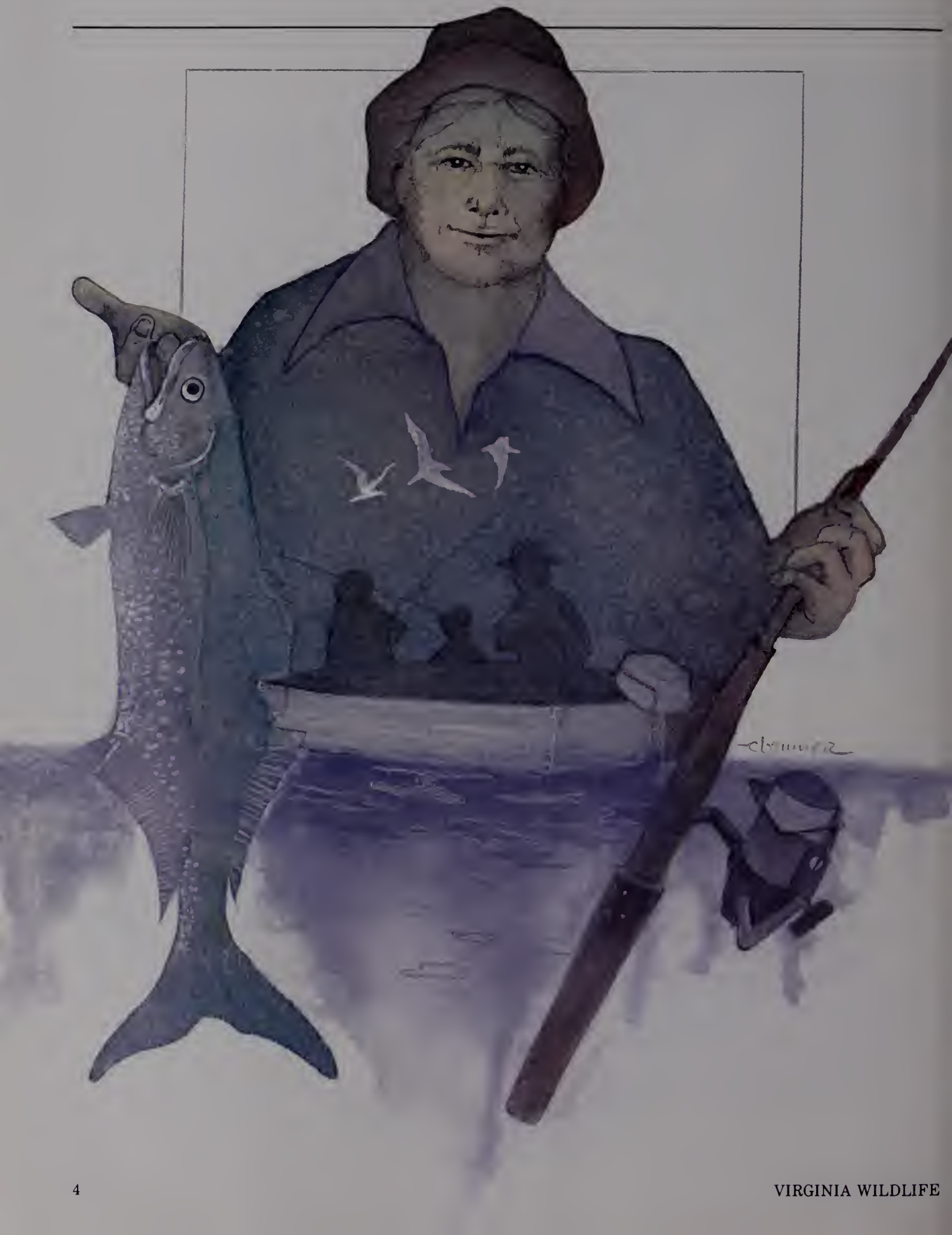
by Steve Ausband
illustrations by Cindi Brunner

My brother looks out over the calm water of the Chesapeake Bay while I pour another cup of coffee from the pot on the camp stove. It is early morning on a day in late spring—cool enough, at this hour, for a light jacket. Bob is looking for gulls.

"Would you bring me those binoculars, Stephen?" he asks my son. He focuses the glasses and looks again. "There they are," he says, pointing toward what looks like a distant cloud of whirling specks. "Let's go for a boat ride."

We wade into the shallow water to where my 15-foot boat rests at anchor, push it out past the sand bar, and lower the motor. In another minute I have the boat on plane and headed in the direction toward which Bob is still pointing. Soon we can see the gulls plainly—hundreds and hundreds of gulls, all wheeling and diving over a tremendous area of water that boils with the fury of feeding bluefish. We put out lines and troll along one edge of a school that must cover at least ten acres. Two fish hit immediately, and I knock the engine out of gear while Bob and Stephen fight them toward the boat.

The fish are identical 15-pounders, and they fight the way blues can always be depended on to fight, sometimes diving for the bottom, at other times making surprising leaps right beside the boat. As Stephen wrestles his fish close to the boat, I grab the four-foot Steelon leader, feeling for a moment the surging, furious energy, and I swing the blue aboard. In three more trolling passes at the edges of the school, we catch as many fish as we want to clean that day, and I point the little boat toward shore. As we head back, we see more boats moving toward the circling gulls.The bluefish are still feeding voraciously, slashing at anything that moves in the water; if the fishermen hurry, they might have another 30 minutes of action before the blues disappear for the morning.



"If they come back this afternoon, we'll try casting to them with lighter tackle," I say.

"Not much lighter," replies Stephen, rubbing his arms.

The Chesapeake Bay is an immense feeding and breeding ground for fish and shellfish of many different species. Sport fishermen regularly try for flounder, gray trout, speckled trout, drum (both black and red), striped bass (locally called rock) and bluefish, as well as less spectacular varieties such as croaker and spot. And while I know some devoted gray trout fishermen who will not bring a bluefish aboard their boats, there are many of us who live for the runs of giant blues every spring and fall.

The first fish usually show up near the mouth of the bay, near the bridge-tunnel, around the first of May. They move northward rapidly, and by the end of the month they are in tremendous schools scattered all over the lower bay area. The first season peaks in late May or early June, but some schools remain in the southern portion of the Chesapeake all summer. In the fall—usually by mid-October—they return southward, providing more frantic action for anyone in the right place at the right time.

I have caught blues on bottom rigs while drifting for flounder or fishing for croaker, by surf casting with Hopkins lures or chunks of cut mullet, by trolling and by casting from a drifting boat into a school. My favorite way, however, is to camp beside the bay in the spring and wait for the gulls to pinpoint surface-feeding schools. Then I jump into my waiting boat, make a quick raid on the school and return to camp a few minutes later with fresh fish for the next meal. This method has several advantages. In the first place, it is virtually fool-proof in season. The fish are in the bay; when you see gulls you know exactly where the fish are, and you know that they are feeding. If you put anything in the water then that even vaguely resembles something to eat, you will find a bluefish eager to eat it.

In the second place, both camping and fishing are most pleasant, I believe, in May and June. The weather is pretty dependable by then, and the hot, humid conditions that will make sleeping in a tent in August an endurance test have not yet arrived. Nights are often cool enough for a fire, and one can always sit in a lawn chair in the evening and watch the stars or the lights of passing ships far out in the bay. There are also crabs to be caught and bottom fish and trout to be looked for during the day while you wait for the gulls.

"The Chesapeake Bay is an immense feeding and breeding ground for fish and shellfish of many different species."

Finally, I like the excitement of being just a few inches away from acres and acres of frenzied bluefish while I cast to them. There are few spectacles in fishing quite like it. The gulls wheel and scream overhead, bits of baitfish float in a slick on the surface, butchered by the school of blues below, and long, muscular shapes move at terrific speed just underneath the surface of the green water. Sometimes the fish are furious, striking at anything that moves. At other times, they may be a little more finicky, preferring, let us say, a Hopkins with a few strands of bucktail on the hook over a mere unadorned spoon. Still, they will usually hit anything that flashes, shines or undulates. It makes one glad not to have been born a menhaden.

Fishermen can catch surface-feeding blues on a wide variety of trolling rigs or cast to them with spoons or jigs. Steelon leaders are a necessity, and many experienced bay fishermen prefer at least three feet of it. The long leader may be used for simply lifting the fish aboard the boat, or it can be held to steady the fish as it is gaffed. Trying to steady a fighting bluefish by merely grabbing the line above the leader will almost always result in a broken line, unless the fish is hooked on marlin tackle. Unlike king mackerel, which make blistering runs at the beginning of a fight and then tire, blues seem to save the heavy punching for close quarters; the last 20 yards are the hardest. Drags should be in very good working order. Even an eight- or 10-pound blue will snap surprisingly strong line if the drag is screwed down too tightly.

Blind trolling for blues and trout down deep will produce more fish all summer long than any sane fisherman would want to clean. Wire line rigs with heavy weights or planers are very effective when the fish are feeding near the bottom. But the camping fisherman in the spring can take his time, concentrating on finding a likely spot for black drum or channel bass or perhaps a mess of flounder until the blues go into a surface-feeding frenzy. Or he can tend crab traps or relax in a chair beside the bay, waiting for the gulls to gather. He shouldn't have to wait long; there are often two or three big surface runs of bluefish every day near any bayside campsite, and occasionally the entire day will be one long run.

The number 4 Hopkins with bucktail and the Hopkins 225S are prime fish getters, as is the Hootchie-Troll. One of the most productive trolling rigs I have found is a homemade lure a friend and fishing companion (named, appropriately enough, Ed Fisher) crafts out of egg-shaped sinkers and yellow plastic tubing. Ed fits the tubing around the sinker, trims six inches of it to make a wavy skirt, and rigs it over a 5/0 hook with three feet of Steelon. The total cost is less than 50 cents a lure, and since it takes only a few bluefish to chew the skirt off any lure, the cost is one of the most attractive features.

Trolling is a good way to fill a boat with bluefish, but casting into a school is tops for action. Any fairly heavy spinning or casting outfit will do as long as the reel has a good drag. The Hopkins lures cast beautifully, and bluefish eat them like candy. Surface plugs like the Striper Swiper and the large Rebels produce violent, exciting strikes, but a big bluefish thrashing around in a small boat and sporting a mouthful of treble hooks makes some people nervous. I am one of those people. Light tackle adds to the fun, and I have been told that blues are wonderful antagonists on salt-water flyrods.

While the mainland side of the bay certainly has its share of the fishing action, my own favorite spots for combination camping and fishing trips are on Virginia's Eastern Shore, in Accomack and Northampton Counties. Accomodations range from merely very clean and comfortable to almost fancy. Typical are Peaceful Beach Campground and Silver Beach Campground, both near Exmore, Virginia, and the KOA Holiday Travel Park at Cheriton. All three are within an hour's drive of the bridge-tunnel. At Peaceful Beach and Silver Beach, most fishermen simply anchor their boats in the shallow water in front of the campground. The KOA Holiday Travel Park has a ramp and docking facilities. Anglers should remember that a falling tide can strand a boat in shallow water; this can be especially frustrating if the fish are feeding beyond the sandbar at the time.

While fishing for the giant blues may be the most spectacularly productive angling available to the springtime camper, he can certainly take his fill of other species, as well. The lower bay area supports a fine gray trout fishery, and many local residents concentrate on the trout (or weakfish, as they are sometimes called further north) almost to the exclusion of other varieties. Small- to medium-size trout (up to four or five pounds) are available throughout June near the mouths of creek channels and in fairly deep holes almost anywhere in the bay. The very large trout, from eight to 14 pounds or larger, are usually caught at night. Hotspots are the "cell" areas off Mattawoman Creek, the Cape Charles Reef, and areas of deep water and hard bottom such as the Occohannock Rock and Hack's Rock. Deep holes around the fourth island and near the tunnels of the bridge-tunnel are very popular trout spots. Most grays succumb to pieces of peeler crab fished on a two-hook bottom rig, but wire-line trolling, jigging with bucktails sweetened with a squid strip, and fishing with a live spot or croaker in deep water accounts for many of the real monsters. The Virginia record for gray trout is over 17 pounds; it takes an 11-pounder even to rate a citation from the State Salt Water Fishing Tournament.

"While fishing for the giant blues may be the most spectacularly productive angling available to the springtime camper, he can certainly take his fill of other species, as well."

Black drum, including some truly enormous fish of 90 or 100 pounds, are available to the many campers just offshore from his campsite. Probably the most dependable drum-fishing hole is located near Buoy C10, just out from Cape Charles Harbor, but the big fish may be almost anywhere. Late afternoon and evening fishing seems to produce the most drum, especially in the larger sizes. Standard drum bait is a large piece of clam, often combined with a section of peeler crab on the same 9/0 hook, since the black drum's feisty cousin, the channel bass, shows a preference for crab, and both species are available here in the spring. The crab-and-clam sandwich is held in place with a small rubber band. A "fishfinder" rig allows the drum to pick up the bait without feeling the weight of the lead, which will usually have to be at least four ounces in order to hold bottom in strong current.

The seaside ports are the places to go for superior flounder fishing, though bay fishermen also catch great numbers of the fish. Probably the closest thing to a sure bet for putting lots of flounder fillets in the freezer exists in the channels and inlets near Wachapreague and Quinby. Squid strips or thin slices of flounder belly or even shark belly will work, but minnows are the favorite bait on both sides of the barrier island. Wire-line trolling and drift fishing with larger minnows or small spot around the tunnels sometimes produce flounder 12 pounds or more, especially late in the summer. The best season for catching plenty of smaller flounder on the ocean side, however, is late May and June—just when the camping bluefisherman is most likely to be in the area. After a day or two of battling hungry bluefish, drifting for flounder might seem a welcome and leisurely respite.

Bluefish are oily, but they are delicious if prepared within a day or two of being caught. The flesh does not freeze well, and I never keep more blues than my family and friends will consume in a short time. Small blues are good fried, and the big ones are not bad that way if the fillets are cut into small pieces so that they cook quickly in the hot oil. Grilled over a charcoal fire an hour after it comes out of the water, however, a big bluefish comes into its own. The flesh on either side of the dark lateral line is white and flaky, and two fillets from a big blue will feed a small family. A close friend smokes bluefish in a meat smoker, and the result is a little like smoked salmon. Another friend uses the fish in recipes calling for tuna. The noblest thing that can happen to a bluefish, however, is to wind up on a grill just a stone's throw from where it was swimming an hour earlier. It happens to a lot of them every May and June. □

Bringing Home the BACON

by Price Smith

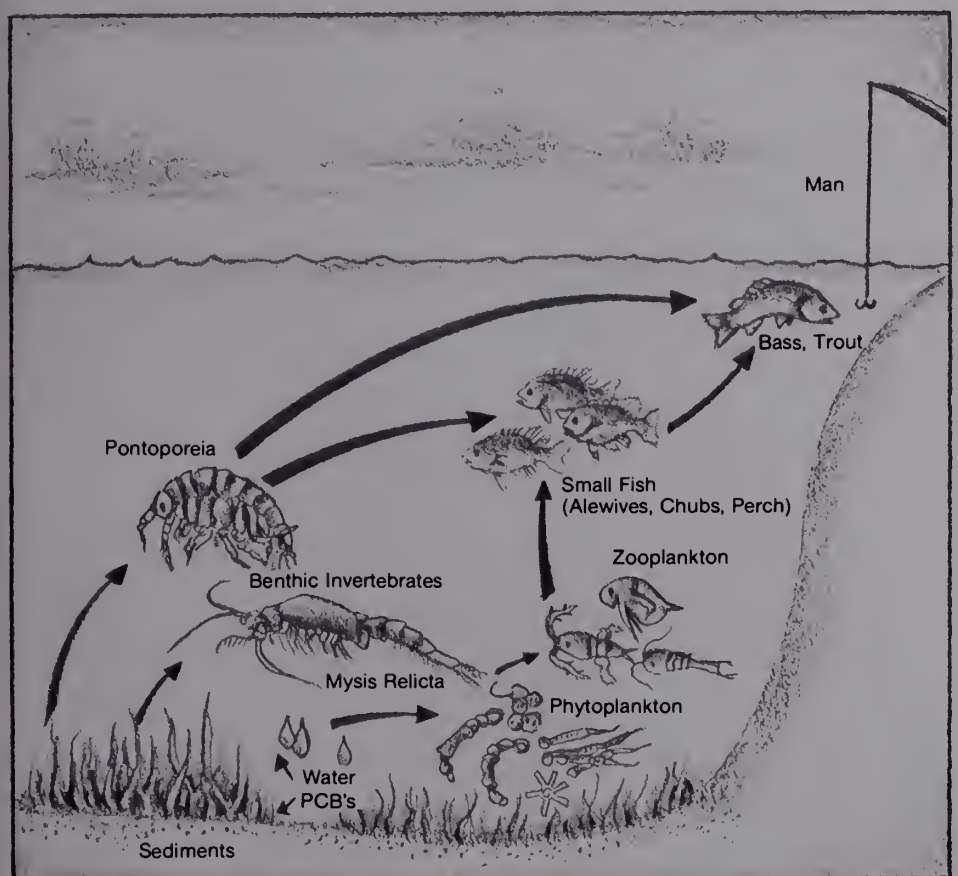
Some tips for lessening your chances of being exposed to the contaminants found in many lakes and streams; where you fish, what you catch and how you prepare it are all important considerations.

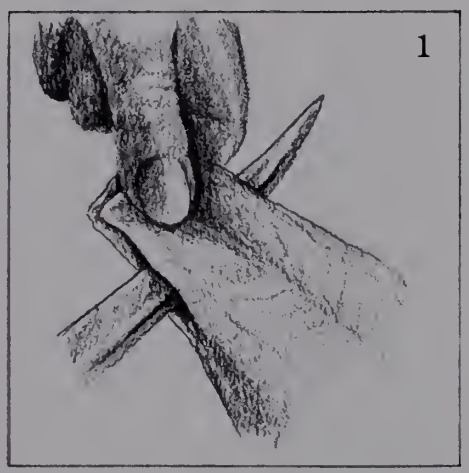
Big, juicy fillets of bass and walleye deep frying in scalding hot oil with mounds of hush puppies and "taters" hot from the oven, and a cold beer to wash it all down. Just the thought of such a feast makes me yearn to grab my fishing pole and head out to the old fishing hole. Usually a delightful day in the great outdoors culminates in an even more delightful banquet that evening. It's all part of combining the pleasure of fishing with providing food for the table.

Yes, I have often enjoyed the fruits of my labor, but I have also become increasingly aware of reports nationwide of various contaminants being "discovered" in our freshwater lakes and rivers. The Hudson River in New York State and the Great Lakes have been hit especially hard. These reports have concerned me and I have attempted to find ways to lessen my own chances of accidentally eating fish that may be contaminated. Anglers who consume their catches frequently and in large quantities should take some precautions. It depends on where you fish, what you catch, and how you cook and eat these freshwater fish.

Heavy metals such as mercury and lead can be found in the flesh (meat) of some fish. Only by avoiding these fish, or limiting the amount that you eat, can "safe" levels be consumed. Organic chemicals are another matter. Many are deposited in the fat of fish and you can avoid these chemicals to a degree by using special cleaning and cooking methods that lessen the amount of fat left in the fish fillet.

Many organic chemicals are chlorinated hydrocarbons that are very persistent and long-lived in our environment. Pesticides such as DDT and





(Above) How chemicals pass through the aquatic food chain. (Fig. 1) If filleting the fish, remove the skin; Leave fillet attached near tail, then cut between skin and flesh by gently pulling fillet against knife blade. (Fig. 2) Slice the belly strip (bottom) from the skinned fillet.

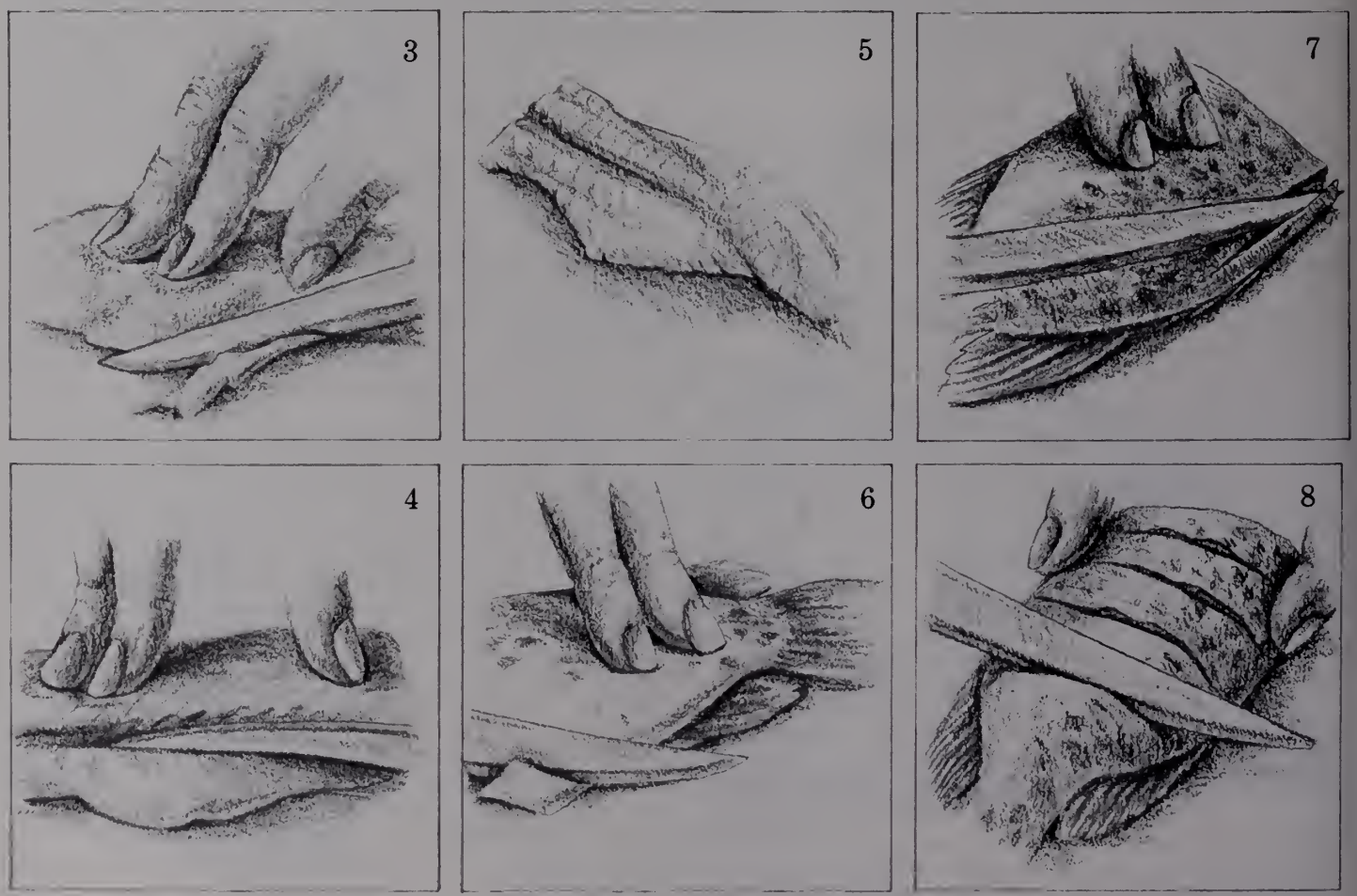
its derivatives, and a common insulator, polychlorinated biphenyls (PCB's) are found in many freshwater lakes and rivers. Although their use is banned or limited within the United States, they are found in various amounts in the environment. They enter the food chain and eventually contaminate fish. Although small amounts of these chemicals apparently do not adversely affect adults, long- or short-term effects of larger dosages on humans are unclear.

Many fishermen feel that it is important to provide meat for the family table. I agree. Combine the pleasure of angling with "bringing home the bacon," but follow some wise advice that I have recently been given by the Michigan State Extension Service, United Conservation Clubs of Michigan, and the Cooperative Extension Services (Sea Grant Program) of New York and Ohio.

1. Know the water you fish. Check to see if the Virginia State Water Control Board or Health Department has placed special regulations or warnings on the water you want to fish. Don't assume that a lack of warning signs around the water means everything is OK.
2. If possible, select the type of water. Large rivers and heavily industrialized waters tend to be more polluted than mountain streams and lakes.
3. Select the species of fish you eat. Bottom feeders (carp, suckers, catfish) and large predators (bass, some trout) may have more contaminants.
4. Select the size of fish to eat. Young fish have had less time to accumulate persistent contaminants. Large fish may be old fish and they also may contain more fats in which certain types of contaminants accumulate.
5. Remove fats before cooking. Clean fish in such a manner that much of the fat is removed (see illustration). Most chemicals, but *not* heavy metals, are concentrated by the fish in their fatty deposits. By removing these deposits while cleaning, the remaining flesh is much cleaner.
6. Cook so fats are drained from the flesh. That is, bake on a rack, barbecue, poach or deep fry and then discard the liquid or oil. Do *not* panfry, can, or make soup from, or allow the fish to cook solely in its own fats.

Now you should be more than ready to prepare and cook your catch. So grab your fishing pole, don your lucky fishing hat and go. The "bacon" is waiting. □

(Fig. 3) Slice the narrow dorsal strip (top) from the fillet. (Fig. 4) Remove the "red meat" from the lateral line. (Fig. 5) Finished fillet, trimmed and ready for cooking. (Fig. 6) If pan dressing rather than filleting, remove head and entrails, scale the fish, then slice off belly strip. (Fig. 7) Remove a narrow strip along entire back, then remove lateral line "red meat" as in Fig. 4. (Fig. 8) If you are not planning to skin the fish, make three or four shallow vertical cuts to allow fats to drain while cooking.



illustrations by Phyllis Saroff

The RESILIENT Brown Trout

story and photos by Randall Shank

(Right) Fishing for brown trout can be productive from the season's opening in spring right through to fall. (Below) The brown's coloring will vary according to habitat and season. This one was landed in October. (Opposite page) The author recommends fishing deep pools for skulking browns.

The setting sun was casting deep shadows over the placid pool as I eased into the soft current and watched for the beginnings of an evening rise. Crickets and frogs and katydids opened the nightly awakening of the river with a chorus of squeaks and chirps. Watching the river carefully, I picked out a dimple on the surface at the far end of the pool and a small rainbow noisily gulped down a mayfly trapped in the thin surface film of the stream. The serenity of the scene was suddenly disrupted by the whale-like eruption near the far bank. One of the largest brown trout I had ever seen leaped out of the water and did a six-pound belly-flop back whence it came.

The brown was big and it had not lived long enough to get that large by accident. Its hangout was on the far side of an unwadeable pool at the base of a steep under-

cut bank. It was just about impossible to reach this giant's lair from the east with a fly rod, and any presentation with a spinning outfit was destined to spook the shy creature.

I saw the trout several seasons after that summer evening and was never able to catch it, no matter how hard I tried. It is the elusive lunker—that unknown goliath of the deep—that draws the angler to the stream time after time in search of his quarry. Its innate ability to survive and to elude the pursuit of fishermen has made the brown trout one of the most popular and sought-after gamefish in Virginia and in this country.

The brown trout (*Salmo trutta*) is not native to our inland waters. A fish culturist, Fred Mather of New York, caught some brown trout over a hundred years ago in the Black Forest of Germany. With the help of a counterpart in Europe, a batch of brown trout eggs was shipped to the United States in 1883. In 1884, a Loch Leven strain of brown trout eggs was shipped to the States from Scotland. The rest is history. The two strains of fish have essentially merged and we have one type of brown trout in the United States today.

A deep brown color accentuated with red dots covers the brown trout but the color of these fish will vary depending on their local habitat and the time of year. For instance, sea run brown trout and browns found in lakes will often have a silvery appearance. Browns in rivers and streams exhibit a more illustrious side, and their fall spawning colors are deep browns with a dark undertone.

From late August to February but mostly in November and December, the female fish will select a well oxygenated riffle and create three or four nests in which to spawn. The fish may spawn in the main river channel or in an entering feeder creek. She is usually followed by one large male or a couple of smaller males. It takes about 50 days at a water temperature of 50 degrees Fahrenheit for the eggs to hatch. The number of days until hatching will vary depending on the water temperature.

During the spawning run in the fall, the angler has the best opportunity to land a lunker brown trout. In October most fishermen have put away their fly rods and are thinking about squirrels and other game. On a clear autumn day with leaves falling in the air, the wading fisherman can often be very successful in fooling what had been an otherwise very wary fish earlier in the season. Whether it is a desire to protect the nest by striking at any intruder that approaches, or it is an intense feeding activity that occurs with the onset of winter, I am not sure. Like no other time of year, big browns will bite in the fall.

Twice I have been fortunate enough to locate good numbers of migrating and spawning browns in autumn. Once was on the Madison River in Montana and the other was on the Smith River here in Virginia. Different locations, but the same family of fish. In both instances the rivers were virtually deserted.

Overall though, the brown trout is a survivor. The average brown can live to an age of four or five years with some specimens having lived for as long as 15 years. There are several factors that contribute to its ability to live and grow to a larger size than its brook and rainbow counterparts. For one, the brown trout can tolerate warmer water temperatures and more polluted water than the other trouts. The ideal water temperature for the brown is 55 to 65 degrees Fahrenheit, but it can withstand temperatures as high as 80 degrees for short periods of time.

Whereas brooks and rainbows are found in the upper reaches of mountain waters, the brown if often caught in the lower reaches of a stream. I know of at least one two-pound brown that was caught in the Smith River below the city limits of Martinsville. This section of the river is polluted, warm, and at least two miles from the nearest upstream stocking point. Most of the fish in that section of the Smith are carp.

The brown trout also has the tendency to displace other species of trout from suitable resting places or niches in a stream. Because of its aggressiveness and dominance, the brown will eliminate brooks and rainbows if the conditions are right. That is why browns are often not stocked in streams that are known to hold a native population of brook trout.

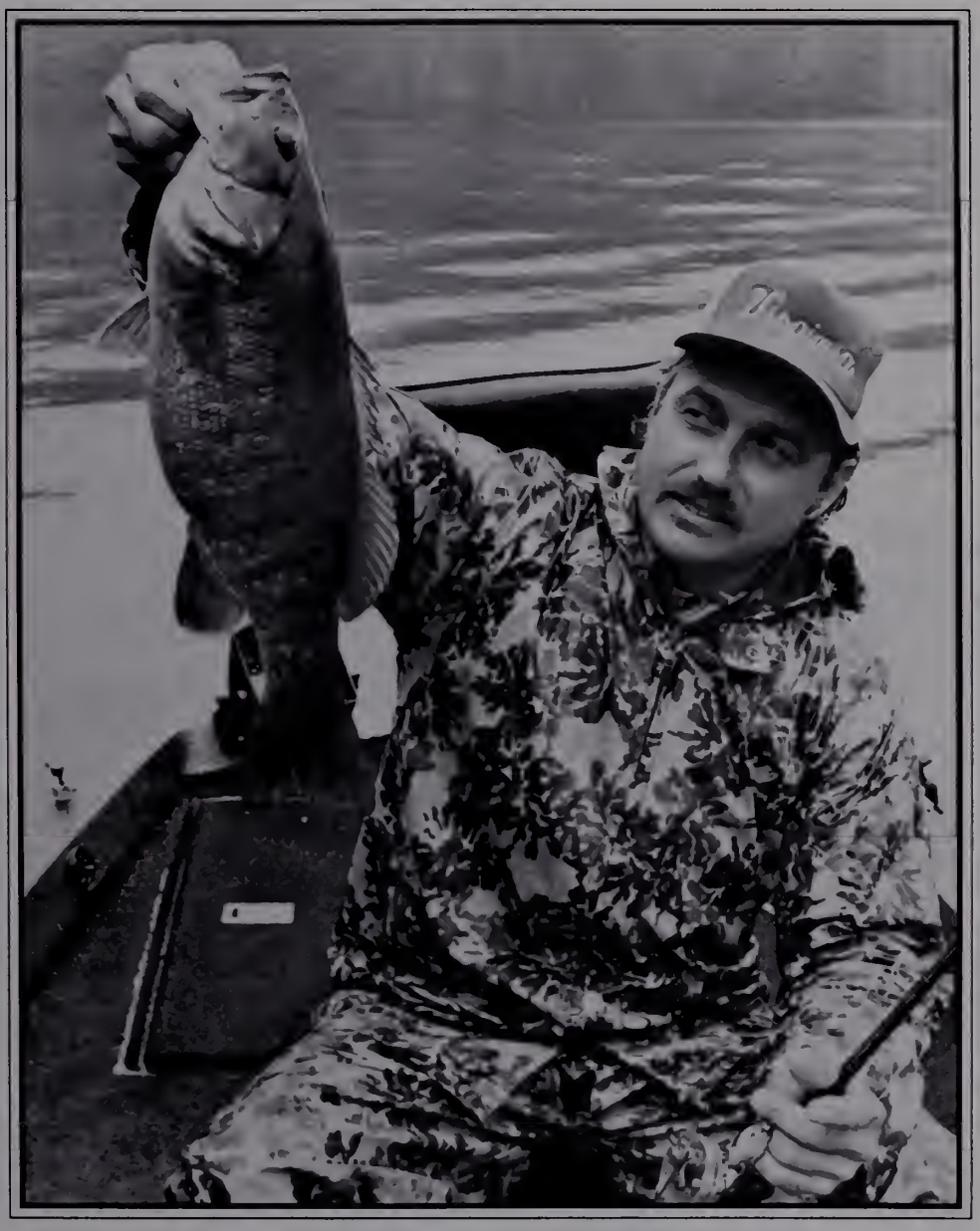
Another reason that the browns often grow older and are not easily caught by the average fisherman is their shy and retiring nature, as well as their nocturnal feeding habits. At about 12 inches, the brown trout becomes less of a feeder on insects and more of a cannibal. Smaller fish become its prime food source. As it gets larger, the brown trout will feed more and more at night. It will skulk under a log or some other suitable hiding spot until the evening hours. Under the cover of darkness it will move in the shallows to feed. The best time to fish for brown trout is an hour before sunset until midnight. But in Virginia, the law prohibits trout fishing after an hour past sundown. The angler is thus somewhat limited in the number of dark hours to pursue these fish. Even so, the early evening hours of legal fishing time present a more opportune time to fool the finicky and wily Mr. Brown.

Many streams in the Old Dominion are excellent brown trout fisheries. The Smith River in Henry County, the Bullpasture River in Highland County, and the Little River in Floyd County are all fine brown trout streams. There are others as well. The Game Commission stocks thousands of brook, rainbow and brown trout in Virginia Rivers and streams each year. Most of these fish are caught soon after they are released. Generally though, a good many of the brown trout will not be caught immediately. They will adapt to their new stream environment, and find their own niche. Those that adapt well will grow old and wise. The current Virginia state record brown trout is a 18-pound, 11-ounce giant that was caught out of the Smith River on June 22, 1979 by Bill Niece.

Those brown trout that survive may go on to spawn and successfully reproduce. With each passing day, these trout get older, a little bigger, and smarter. When the opening day crowds have departed, the angler who enjoys being alone on the river can ease into the water for an evening of matching "wits" with an elusive quarry. With a cool breeze in the trees accompanied by the gurgling of water splashing on rocks, the fisherman can watch the sun set on the dappled stream as the fish rise to the evening hatch. It is the anticipation of the appearance of that wise old lunker brown from the depths of the river that keeps the fisherman returning to the aquatic home of the brown trout again and again. □

Bronzeback BRUISERS

Patronize any of the following waters, and smallmouth bass are practically guaranteed.



story & photos by Bill Cochran

Recent seasons have been the best on record in Virginia for catching trophy smallmouth bass—big, bronze-colored bruisers that mash the scales to the four-pound mark and beyond.

Wall-hanging smallmouths have been popping up from more than a dozen lakes and streams, mostly in the western half of the state, but there are four major hotspots: the James River, Claytor Lake, New River and Philpott Reservoir.

James River

This is Virginia's paramount smallmouth bass habitat, turning out twice as many trophies annually as any other stream or impoundment in the state. The James rises in the mountains of Bath and Alleghany counties and cuts a forceful swath southeastward across the state to the Chesapeake Bay. Smallmouth populate the river from above Eagle Rock to Richmond, a distance of more than 200 miles. Catches are particularly impressive from Eagle Rock to Natural Bridge Station and from Scottsville to Columbia.

The James offers excellent float-fishing opportunities, where the canoeist or john-boater can immerse himself in isolation and adventure with a couple of strokes of a paddle. Catching and releasing 50 or more bass is common on a successful day's float. Most of the fish are of modest size, a foot long or less. Among them, however, is

(Preceding page) Citation smallmouth from Philpott Reservoir. Philpott is the place to be for smallmouths in April. (Right) Built on the Jackson River, Lake Moomaw has good smallmouth potential. (Below) Casting toward pilings in Smith Mountain Lake, which may make a smallmouth comeback.

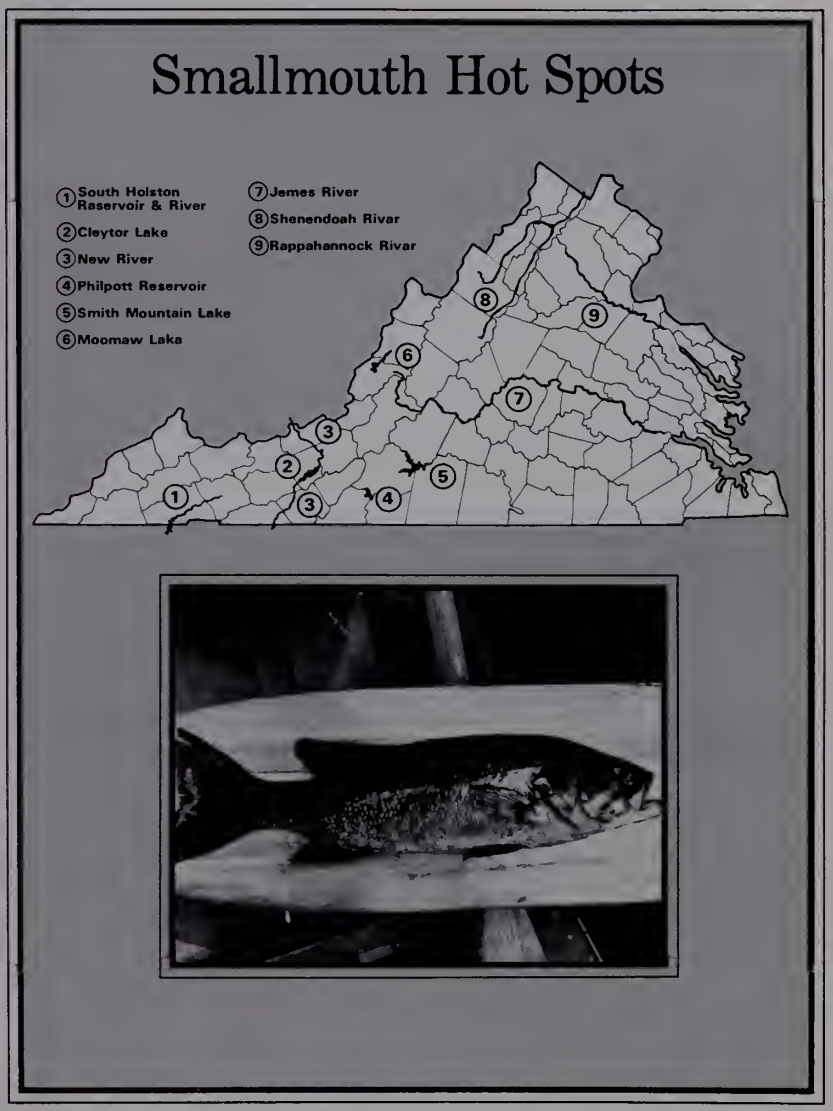
an occasional rod-ripper that will cover the blade of a canoe paddle. Each year the Commission of Game and Inland Fisheries awards 75 to 100 trophy fish citation plaques to anglers registering James River bass that weigh four pounds and above. No telling how many additional bass go unheralded.

Even when other waters are suffering from dog-day doldrums, the smallmouths in the James are willing to bow the rods and bug the eyes of fishermen. The past couple of seasons, August has been the top trophy-producing month. The next best months, in order, are September, April, June, May, July and March.

For catching sheer numbers of bass, it is difficult to surpass a 1/16 or 1/8 ounce leadhead jig with a 1½- to 2-inch twister-type plastic tail. Brown and chartreuse are excellent colors. Other James River favorites include the Rebel, Tiny Torpedo, Roostertail, Beetle Spin, Balsa Honey B and Tenny O. Hellgrammites and madtoms are effective baits. There are several public boating access points, particularly from Lynchburg to Richmond, but for the most part, fishing the James is a matter of pulling your boat over the bank, (with permission, of course).

Claytor Lake

While the James River produces the most trophy smallmouths, Claytor Lake has accounted for some of the



A canoe on the James River, a perfect platform for fishing a smallmouth paradise.

largest, including the state record. That fish is an eight-pounder, caught by C. A. Garay of Pulaski, May 22, 1964. It is the oldest freshwater record on Virginia's books, and if it ever is beaten there is a good chance that another Claytor catch will do the trick.

A 4,500-acre impoundment on the New River in Pulaski County, Claytor has been growing older with grace as it reaches its mid-40's. According to Game Commission studies, the lake's fishery has benefitted during recent years from a more stable water level during the spawning season. This is the result of cooperation from the Appalachian Power Company, who manages the impoundment as a hydroelectric power project. Good numbers of young and intermediate-size bass have been observed. Claytor receives heavy fishing pressure, but, fortunately, bass fishermen frequently practice catch-and-release. This helps assure there are trophy fish to be caught.

Fishing for big smallmouths booms into prominence each April and remains productive through October. Many of the better bass are taken by fishermen who stalk the lake's clear waters under the guise of darkness.

The most successful lure during recent seasons has been the jig-and-porkrind, either solid black or black and brown. It is best applied to the lake's rocky points. The Model 7A Bomber, in crawfish color, is a productive plug during the springtime, and a Hopkins spoon frequently can be used with success for jigging up bass during the cold-weather months.

Convenient boat launching and camping is provided at Claytor Lake State Park, which is reached off Interstate 81 south of Radford. From the interstate, follow Virginia 660 south to the park.

New River

For many years, the New River was tagged with a reputation for producing mostly small bass; then it suddenly vaulted into the ranks of Virginia's big-bass producers. In 1980, the number of citations registered with the Game Commission from this scenic stream jumped by 75 percent. Trophy catches have been holding up ever since.

A daughter of the Mississippi, the New is born in the mountains of North Carolina and flows 150 miles northward through Virginia into West Virginia. It makes nearly a 1,000-foot drop through the state, a descent that creates long pools with moderate flow broken by shallow ledges and sparkling rapids—ideal smallmouth habitat. Those ledges, where the water rapidly goes from deep to shallow, frequently provide the best big bass catches.

The peak fishing occurs March through May, but trophy fish also turn up June through November. On the average, the largest bass are caught in the portion of the river downstream from Claytor Lake; however, all sections are capable of turning out trophies.

The lures suggested for the James River work equally well here. Spring lizards are an ideal natural bait.

The Game Commission recently has provided several new access points on the upper end of the river; still, floating and bank fishing mostly is a matter of going over the bank where the river comes in contact with a road.

Philpott Reservoir

If you must choose a single time to fish Philpott Reservoir, by all means go in April. That's when more than one-third of the trophy smallmouth are landed from the clear waters of this 3,000-acre Corps of Engineers impoundment near Bassett.

The smallmouth bass action begins in earnest each March, but be aware that January and February produce a few trophies annually, earning the lake the reputation of being the state's best wintertime smallmouth fishing spot. Following the blitz in April, a minipeak occurs in October and November.

The Corps' recent policy of leaving timber that falls along the shoreline is credited with improving bass fishing by providing more cover. Some of the best fishing is among the submerged tops of these blowdowns, particularly those along the rocky points.

Small, deep-diving plugs and jig-and-porkrind combinations are productive lures, especially when worked on light line to compensate for the clear water.

Large minnows are an outstanding early-season bait, while spring lizards provide considerable success later in the season.

Excellent spawns in 1978 and 1980 should provide continued good trophy smallmouth fishing opportunities the next several seasons, game officials predict.

Reached three miles northwest of Bassett, Philpott contains 10 boat-launching ramps and 11 campgrounds, giving anglers quick and easy access to the smallmouths.

The Best of the Rest

Smith Mountain Reservoir once was the state's top trophy smallmouth habitat, but the 20,000-acre impoundment, along the foot of the Blue Ridge Mountains east of Roanoke, has been languishing in a downcycle. Watch for a comeback. Promising numbers of small bass are being observed in the lake. March through May traditionally are the best months to catch the big ones.

The Rappahannock River, a history-rich stream in the Fredericksburg area, has yielded good trophy catches the past couple of seasons. June through October is the time to go for the big ones.

South Holston Reservoir and river, in the far southwest end of the state, turns out a steady, although modest, supply of trophy smallmouths February through November. The lower portion of the 7,500-acre lake dips down into Tennessee, where a Tennessee fishing license is required.

The storied Shenandoah River long has been recognized as one of the finest smallmouth streams in the East. It provides some of the best fly-rod fishing opportunities. Despite heavy fishing pressure, several trophies pop up annually, particularly May through October. The stream is located in the northern end of the state, in a valley overlooked by the lofty Shenandoah National Park.

Moomaw Lake, a new impoundment behind Gathright Dam, just northeast of Covington, already has produced some broad-shouldered smallmouths, although it did not open to fishing until April 1981. Look for this Corps of Engineers project to yield some beauties, especially in the next two to five years. A state record isn't out of the question.

Anglers desiring to fish for Virginia's smallmouths can get a summary of fishing regulations and information on boating access from the Virginia Commission of Game and Inland Fisheries, P.O. Box 11104, Richmond, Virginia 23230. Ask for "1983-84 Fishing Regulations" and "Let's Go Freshwater Fishing" publications. □

Through the Eyes of R. B. Dance

Japanese art and culture, realism, a love of the outdoors—all have influenced the style of painter R.B. Dance.

Japanese art and culture, Winslow Homer and Andrew Wyeth, a love of the outdoors . . .all have influenced the style of artist R.B. Dance.

Dance was born in Japan, but his family left for the United States when World War II began; he was only six years old at the time. Still, he believes that his short stay in that country influenced him as an artist.

The family relocated to Richmond; his father was a native of Midlothian. About five years later, they went to North Carolina, where Dance lives today. He and his wife lived in Roanoke for a time during the 1960's, and they still have family living in the Old Dominion, so although he is a Carolinian, his ties to Virginia are strong.

He is also an all-around outdoorsman—he loves to fish and to sail, and although he no longer hunts, he continues to be fascinated by guns. He has illustrated covers for several wildlife books and has painted several covers for Wildlife in North Carolina. *His work has also been published by* Yankee, American Artist, *Ducks Unlimited—in their magazine and annual report—and in numerous other publications.*

Dance is a graduate of the Philadelphia Museum College of Art; he believes that his work has also been influenced by the Philadelphia School of realists, artists such as Thomas Eakins and Henry C. Pitz.

He has also exhibited in the Mint Museum of Art in Charlotte, The North Carolina Museum of Art and many others.—SRB

A Voyage of Nostalgia

A fisherman spends a wistful day on the Holston River with his son.

by Garvey Winegar *illustrations by Phyllis Saroff*

The North Fork of the Holston River hasn't changed in 30 years. It probably hasn't changed in a thousand, but I can only speak for the past 30 years or so.

The timeless Holston, as it flows out of Saltville, through Hilton and Weber City, then across the Virginia-Tennessee state line at Cloud's Ford looks, smells, feels the same as it did a third of a century ago when I caught my first fish—a "punkinseed" with the yellow of summer splashed across his belly—under one of the mottled sycamores beside the river.

I almost drowned in it one time. Its tepid summer waters were filling my lungs when an older, stronger friend reached me. Naturally we'd slipped away from home and run the last mile barefoot in the dust of the country road to reach what we called the "deep hole." (Though we lived within a stone's throw of the river, my mother always said: "Now I've told you, you can't go swimming in that ol' river 'til you learn to swim.")

These things played tag in the corridors of my mind not long ago when we slipped two canoes in the Holston at Warm Springs. It was a step back in time. The river hadn't changed.

But the trip was also a melancholy look at the present and the future. Once you pass 40 and have quite a few roads behind you—from dead ends to superhighways—and when your 20-year-old son is floating your boyhood river with you, the awareness that a lot of water has poured over the dam is a truth almost as tangible as the evening sound of the cicadas singing their dry, raspy song along the river's edge.

I watched Anthony and his friend Louie let the current catch their canoe and slowly, almost imperceptibly swing them into the river's flow.

At 20 it is inconceivable, utterly unthinkable that the road, the river, the trip will ever end. It's just not one of those things you think about. But he too may someday take a beloved son or daughter down this same river. I decided not to tell him that the experience will leave him humbled, awed, disturbingly aware of the swift passing of years. The thought might seem morbid, and this is anything but a morbid trip.

The Holston River at evening is as perfect as a river can be. At this time of year, during the dog days of summer, it is slightly dingy—not dirty, not discolored. Just that slight opaqueness that makes for good fishing when the fish can't see the canoe coming.

We soon drifted through our first set of mild rapids. They're caused by the remnants of an old Indian fish trap which consists of a "v" of heavy rocks placed all the way across the river. The "v" points downstream. Countless floods have washed large holes in the old trap over the centuries, yet it is in remarkably good condition. The way the Indians used these traps seems to have been lost in antiquity, but they can be found on many Virginia rivers.

Obviously they were used to catch the spring spawning run of suckers and white bass, or in the case of rivers leading to the Chesapeake Bay (the Shenandoah, the James) to catch the migratory runs of great striped bass that once made their way to the headwaters to spawn before the white man built power dams to block the way.

In the eddy below the Indian fish trap, the boys caught their first redeyes and sunfish.

For reasons never clear, they managed to keep up this insubordinate business of catching more than their elders for the duration of the float trip, though my brother Glen and I were often using the same lures they were.

The sunfish, the redeyes, the smallmouth bass were hitting well. They jumped on floating lures like the Rebel and Rapala. They struck the spinners—the Mepps, the Panther Martins—that ran underwater.

It was summer on a favorite river with the sun going down. . .a voyage of nostalgia and good fishing and shared jokes drifting across the water.

We rested our canoes against a series of snags in the river and worked the water carefully just below a set of riffles where the big bass and channel cats come to feed late in the evening.

Glen hooked but lost a smallmouth of some size. "I got Ol' Clyde!" he shouted. The battle was brief but furious with a great deal of shouted instruction to hold the rod tip up, to keep the line tight, to holysmoke not lose that fish.

But the bass snapped the line and won. And so did we all, because those few moments will be another part of this beloved river that we will carry with us as long as we have the ability to remember.

It was getting late. The sun sank behind Clinch Mountain. I watched my topwater lure make a gurgling noise on the way back to the canoe when I saw reflected in the last light seven shadows skimming over the water. I looked up and a small flock of ducks was headed upriver, searching for a place to spend the night. The last of the sun flashed on their wings.

We had taken longer than we'd planned. Darkness was coming on quickly. This was no problem for Glen and me because we know the river. But for the boys, the last fish trap, the last rapids between us and the front yard of home might have presented a problem.

We made them bring in their lines and start paddling so we could all shoot the rapids with what light was left. We made it through just as complete darkness fell. Then there was nothing but smooth, slow-moving river for the last half mile. We could sit back, take it easy, light up a pipe or cigarette and let the river take us to the house, where Mother was fixing supper.

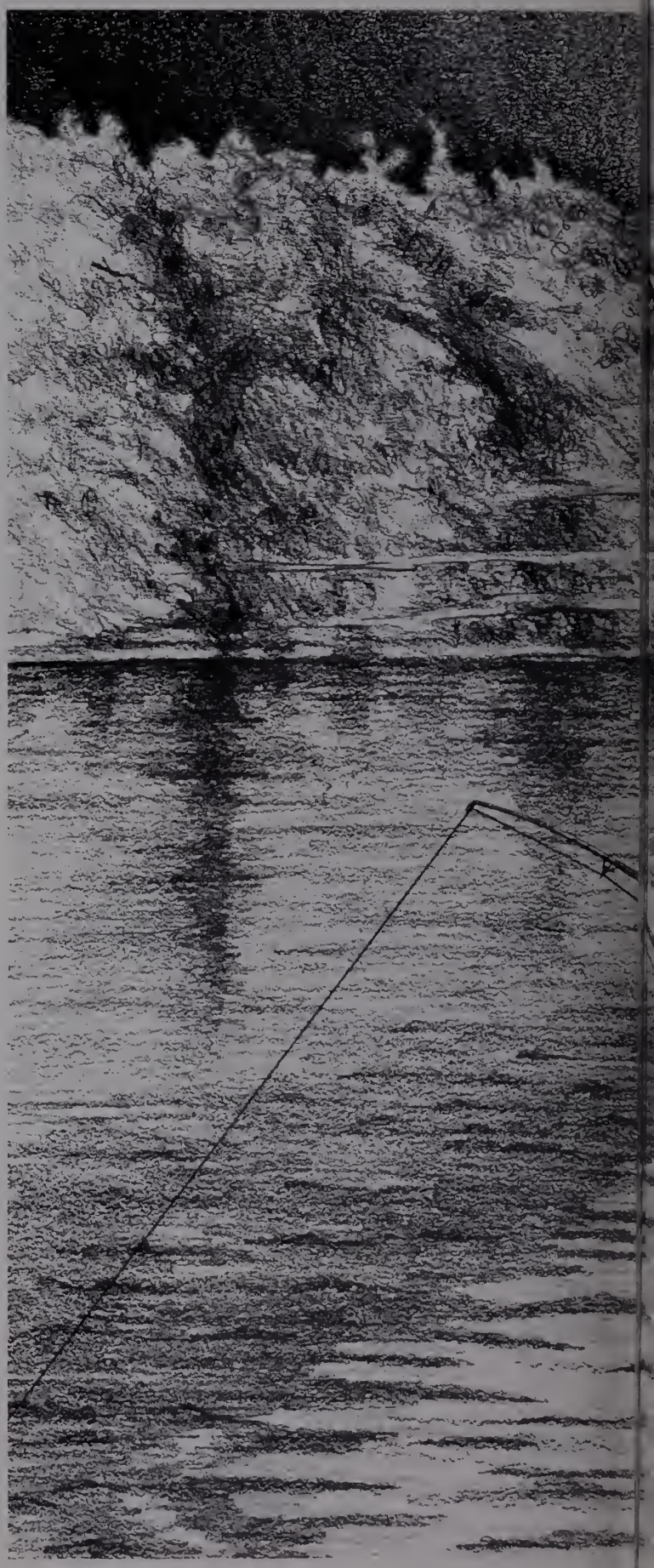
Somewhere on our left a bullfrog tuned up. Another answered downriver. Ah, this was the Holston I remembered. An owl hooted on the dark ridge that forces the river into a slight curve to the right.

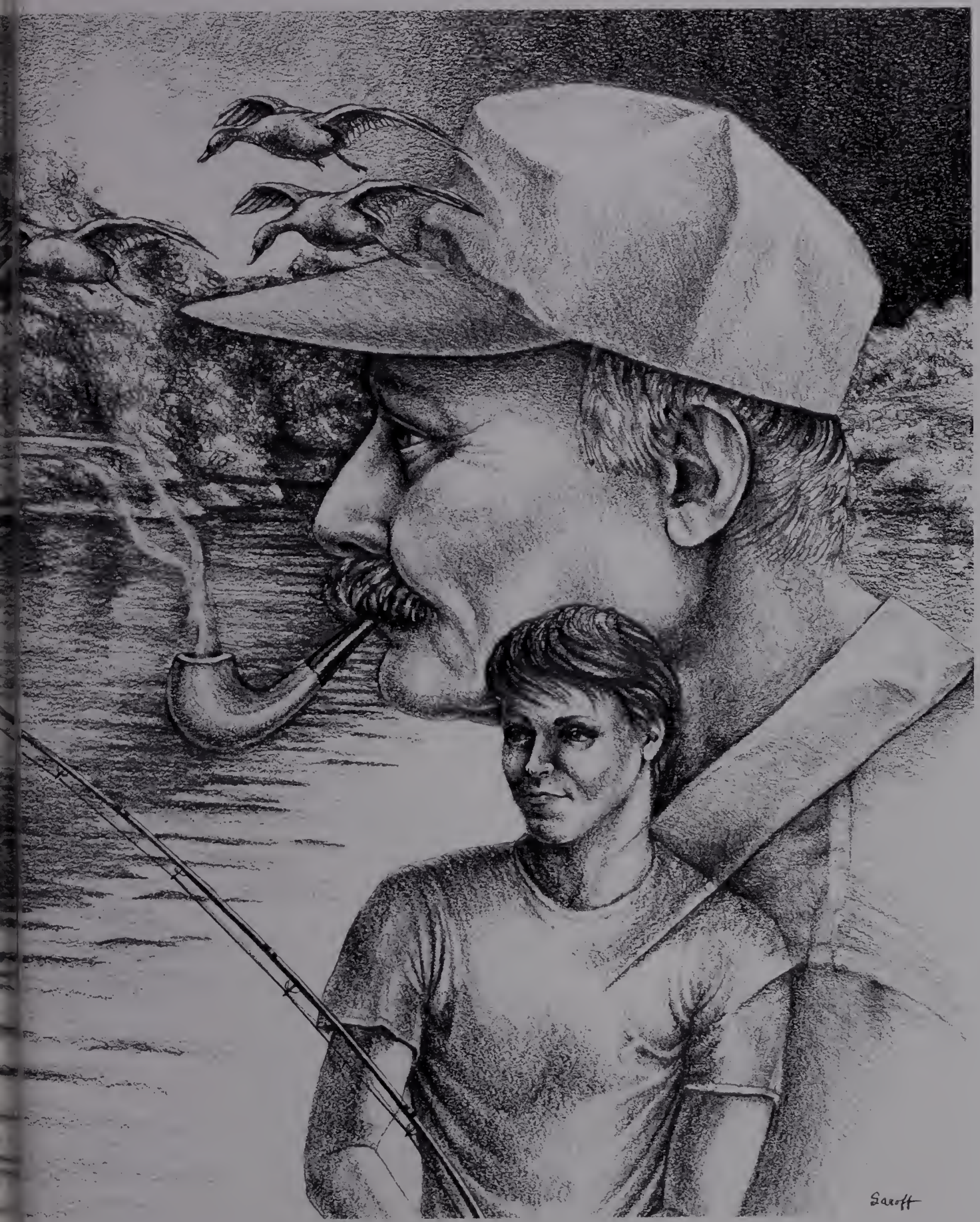
My spinner hung on a snag in the black river and broke off. Since there was still good fishing left, I tried to tie another on by the light of a cigarette lighter, which attracted a good number of insects including a ferocious-looking Dobson fly with a set of pincers that could make you howl.

No good. The eyes just wouldn't cut it in this faint light. I handed the line to Glen and he tried it for awhile. "Let the boys try it," he said. "It's just too dark for me."

We called them over and held the canoes side by side while we floated down the river, illuminated only by a Zippo that cast a pale drop of light in a vast summer evening of pure blackness.

They couldn't do it, either. And that made the passage of time less disturbing. In fact, it made the night complete. □




Saroff

by Gino Lucchetti
and Garland B. Pardue

Your Favorite TROUT Stream

You probably have a favorite spot for pursuing the wily trout. Do you know what ingredients make a stream good for fishing?

Most anglers have a favorite trout stream, one that consistently produces good-sized trout year-round. It may resemble the classic one, tumbling down heavily forested slopes, with pools deep and clear, each holding a finny treasure. Or it may be an unassuming rivulet originating from a bubbling spring and meandering through pastures, slipping under willows, or slowly waltzing through brushy woodlots. What do these streams have in common? Past and ongoing research in trout ecology, especially at Virginia Tech, has provided insight into this.

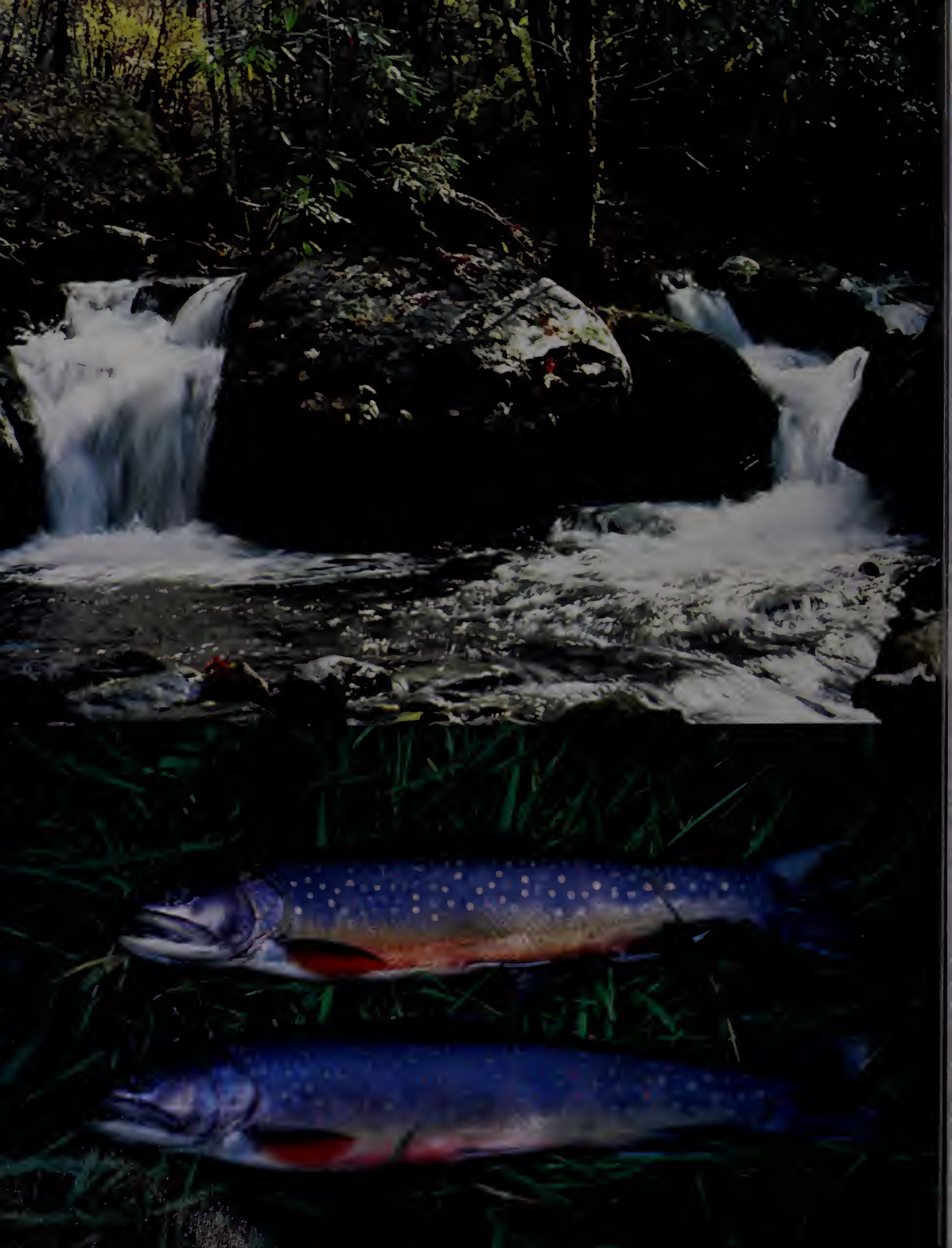
Trout populations reflect the influence of each chemical, physical, biological and human parameter in a stream. The effects of each of these factors have been frequent subjects of research. Of the myriad of possible factors affecting trout production (size and number of fish), some have greater impact than others. For instance, water hardness is a chemical variable that appears closely related to fertility. Hard water (water high in dissolved minerals such as calcium carbonate and magnesium carbonate) often contains more fish than does soft water. Primary producers which are at the bottom of the food chain (such as algae) require these minerals for growth. Hard water has a high potential for increasing primary production and, in turn, an increased capacity for production of some species of aquatic insects and crayfish which are eaten by trout.

Water temperature plays a vital role in the metabolic and respiratory rates of all aquatic organisms. Trout are coldwater organisms; therefore, it is essential that water in a trout stream remain cool throughout the year. Temperatures for optimum growth range from 48 to 54 degrees Fahrenheit for brook trout and from 52 to 58 degrees for brown and rainbow trout. Water temperatures above 70 degrees that persist longer than a day or so are usually lethal to trout. Streams that maintain constant optimum water temperatures provide a longer growing season, and therefore often produce more and bigger trout than streams that warm up during the summer.

Water that is too cold, however, also adversely affects trout populations; for example, ice may form on submerged boulders and gravel. This "anchor ice" can kill trout eggs and larvae buried in the gravel. In addition, ice formation binds available water, causing dewatering and possibly the stranding and killing of trout and other aquatic organisms under the ice.

Physical features of a stream interact to create habitat. Any good angler can "read" a stream—that is, recognize the best habitat for trout, and be aware that all pools in a stream were *not* created equal. The mere presence of a pool does not guarantee fish. Research is showing what many anglers already know: it is the quality—not quantity—of habitat that counts. Habitat quality is difficult to qualify but is often measured by the amount of protective cover present, such as undercut banks, turbulent or deep water, overhead shade from vegetation and, of course, submerged boulders and logs. For many trout, such cover is used both for protection and feeding. However, a recent study of brown trout in a highly productive Pennsylvania stream showed that trout do not use this cover as extensively as some biologists and anglers may think. Trout range and feed long distances from available cover, if they are undisturbed by predators or humans

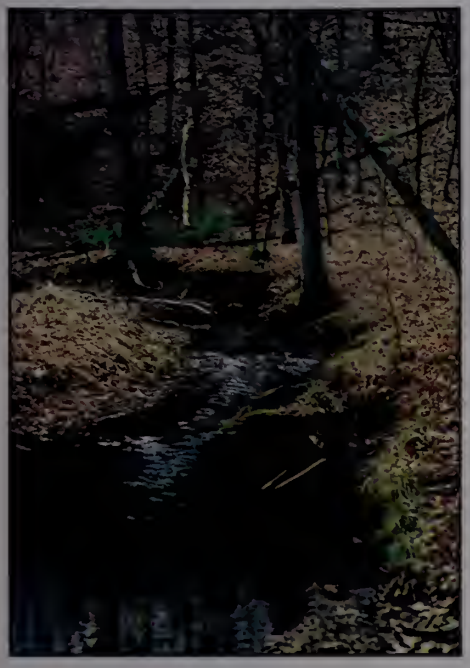
Habitat quality can affect the available food supply, reproduction, and trout behavior. A study of brook trout in four Virginia and West Virginia streams showed that trout production was low in streams with substrates of bedrock, sand, and silt. These substrates do not produce many insects and crayfish—the principal foods of trout. Bedrock provides no place for trout to



dig a nest and deposit eggs; and sand can smother trout eggs during their intergravel development. A stream bottom composed of a mixture of rocks of different sizes, dominated by gravel between ⅛ and one inch in diameter, but also having plenty of rocks up to boulder size, provides a diverse substrate suitable both for food production and spawning.

Floods and droughts are recurring catastrophic events that adversely affect trout populations. Severe floods can sweep fish downstream and scour stream bottoms, leaving few fish or food organisms behind. In Virginia, droughts are probably more common than floods. They result in stream dewatering and high water temperatures—both of which are lethal for trout. In streams that are consistently good trout producers, these problems rarely occur—often because land management practices in the watershed are good. It is reassuring to note, however, that trout in Virginia are resilient to such catastrophes and often repopulate the stream to a level similar to that before the disturbance within a few years, sometimes sooner.

(Top left and photo this page) Productive woodland brook trout streams are composed of pools, runs and riffles. (Bottom left) An adult brook trout in spawning coloration.



The biological element of a trout's environment includes its food supply and other fish species. The food supply, mentioned previously, is basically governed by the same factors as the trout: water quality, temperature and habitat. Trout feed primarily on aquatic insect larvae, but also feed heavily on terrestrial insects such as grasshoppers and ants during summer. Crayfish are important wherever they are abundant. A simple assessment of the aquatic food supply can be made by examining the undersides of submerged rocks and leaf packs. In a highly productive stream, insects are numerous at these sites.

The species of fish present may serve as a rough indicator of a stream's potential for trout. The presence of warmwater species such as pumpkinseeds, rock bass or smallmouth bass indicates that the stream is marginal for trout. A typical Virginia trout stream has an array of species, including sculpins, darters, suckers, and dace. Competition probably occurs between these fish species and trout. It appears, though, that the shifts in abundance between trout and non-game fish are a result of habitat change or overfishing, both of which favor non-game species.

The human influence on a trout's environment can be the most devastating. Logging and agriculture often lead to erosion and increased sand and silt in streams. Overfishing can decimate healthy trout populations if anglers do not obey harvest regulations, or if too many anglers fish a given stream. The best trout streams receive little human impact. Many states have passed strict laws to preserve aquatic habitat in the face of human development. The formation of "Catch-and-Release" and "Trophy Trout" programs allows highly productive trout streams to remain that way by limiting harvest.

This is an elementary review of some of the factors affecting trout populations. There are, of course, seemingly unlimited factors and combinations of factors affecting trout populations at any given time. There is no single picture of the perfect trout stream. The true importance of each of the factors we have mentioned is not known, and will probably be the subject of much future research and debate. The poor state of one factor can be offset by the optimal condition of another. For example, many anglers have found that spring-fed pasture streams choked with silt may provide excellent trout fishing because the water is constantly cold. The recipe for a trout stream of high quality is therefore not cast in concrete, but you can be sure that attention to these ingredients will make your trout streams more productive. □

The Spunky Yellowbreast

This fine little gamefish has salvaged many a trip when the smallmouth bass wouldn't cooperate.

story & photos by Bob Gooch

Virginia's lakes and streams are loaded with sunfish. There are over a dozen species in America, and many of them fin Old Dominion waters. Even the largemouth and smallmouth bass are jumbo members of the sunfish family, but most anglers put them in a class all their own—and perhaps rightfully so.

The delightful bluegill, or brim, is the most widespread, and no doubt the most popular of the clan, but the crappie will press it for that position. And then there is the pumpkinseed, the rock bass, the shellcracker, the warmouth and so on.

Bluegills are fun, and so are crappies, but I'll take the spunky, brightly-colored yellowbreast sunfish of our fast flowing streams both east and west. Maybe it's because the fine little gamefish has salvaged so many smallmouth bass trips when the bronzebacks refused to cooperate. The two fish often occupy the same water, usually clear, fast streams.

Other anglers may call the fish redbreast, yellowbelly, longear, or simply sun perch. I don't like yellowbelly. Nothing could be more inappropriate for the little gamester. Scientifically, it is known as *Lepomis auritus* if my field guides are correct. That's one way to nail down the identification.

I don't recall where I caught my first yellowbreast sunfish, but there is no better stream in Virginia for the little sunny than the upper James all the way from its source where the Cowpasture and Jackson Rivers join at Iron Gate to the boulder-studded rapids in Richmond. Both the Cowpasture and Jackson are good yellowbreast waters also. I didn't fish the James when I was a wet-nosed kid, but I spent long hours on some of its tributaries, and I suspect it was there that I caught my first yellowbreasts, probably a real trophy in those days of branch minnows and hornyheads.

I've since caught a lot of yellowbreasts from the surging currents of the mighty James, and not a few from the Rapidan and the upper reaches of the Rappahannock. And I've seen some fine mixed stringers of smallmouths, rock bass, and sunfish from the South Holston. The lower reaches of some of our best trout streams are always good for a scrappy sunny or two—and they'll hold their own with those haughty trout.

This is not to say that the yellowbreast doesn't live in our lakes and reservoirs, but it is at its best in the fast waters of streams all over the Old Dominion.

The yellowbreast's primary range is east of the Allegheny Mountains and through the Atlantic drainage system from New Brunswick to Florida.

Wherever it is found it is a handsome fish, flamboyant and brightly colored, particularly during the spawning season. Its dark olive back shades into the yellow of its sides and a bright red-orange on the forward part of its belly. Its tail also has traces of red or orange, and this color scheme usually extends to its fins. The cheek and gill covers are light blue and mixed with orange or yellow, and a striking black flap extends backward beyond its gills.

The yellowbreast sunfish is no lunker. A half-pound sunny is a good one, though outsized fish may grow to a foot and weigh a pound.

I don't plan to get caught up in a lot of statements about what the yellowbreast sunfish will and will not do. I've never found fishing to be an exact science, but I do know from experience that it will hit artificial lures with gusto. The tiny lures are best, but the fact that many are caught by bass anglers is some indication of how ambitious they are when attacking a lure. I've caught them on lures much too big for their tiny mouths. Unlike the rock bass and warmouth, the yellowbreast does not have a large mouth. The angler will connect on more strikes if he sticks with small lures.

Small spoons, spinners, flies, streamers and tiny plugs will all take yellowbreasts. They can also be caught on all kinds of natural baits, but artificial lures are just as effective and, in some cases, more so. Dry flies and popping bugs are a joy to fish with on a fly rod late in the day.

Certainly there is no finer fishing than floating a lively stream in a canoe or john boat, casting to yellowbreast sunfish and wondering what you will find around the next bend in the stream. Light spinning tackle is flexible and near ideal for this fast-moving situation.

Public access points are well spaced on some of our better streams, particularly the James, and planning a float trip is no real problem. A pair of automobiles is ideal, one to be left at the downstream take-out point, and the other to drive upstream to the launching site. Otherwise, you have to arrange to be picked up at the end of your trip.

Wading is also productive, though the angler's mobility will be limited in the large streams such as the James. On the smaller ones, wading may be more productive than floating in a boat or canoe. The angler's limited mobility forces him to work the available water more thoroughly. Some wading anglers make good use of a canvas-covered inner tube, one that has a saddle the angler can ride. When not in use it can be tied to the belt and towed. It extends the wader's range considerably by getting him through the deep pockets.

The ideal tackle for the river sunnies is ultralight spinning tackle that features wandlike rods, tiny open-face reels, and thread line. A two-pound test line will handle any yellowbreast that swims, but there is always the possibility that a buster smallmouth bass will hit one of those tiny lures. For that reason I usually load four-pound test line when fishing water I know will hold some good bronzebacks.

While it lives in fast-flowing streams, the yellowbreast does not spend much time in the swift currents. They are caught there occasionally, but this is not the fish's favorite habitat. It will seek protection from the never-ceasing currents.

One good spot is the quiet water near a steep bank. Back eddies are good because the currents swing around providing a constant supply of food from the river. The water is often deep and beyond the reach of the wading angler, but the canoeist or boat fisherman can reach it. Just about any quiet, reasonably deep pool is likely to hold some good river sunfish.

Another favorite spot is the quiet or protected water immediately below a mid-stream boulder. Some of the largest sunfish hang out there, and it is easy water to fish. Just drop a lure a few feet above the boulder and let the current sweep it by. Keep a tight line and be prepared to set the hook as the lure clears the lee side of the boulder.

Those somewhat diverse kinds of water require different angling techniques.

In the quiet water, the angler has to provide some of the action for his lure. I don't like to work a lure too rapidly for yellowbreasts. A slow approach used by so many successful crappie anglers may work, though usually a bit more action is better. Experiment until you learn what works best. It may vary from day to day. Usually the larger redbreasts are fairly deep, so let the lure sink a few feet in those deep holes.

For fishing those mid-stream boulders, the action of the current will give the lure all the action it needs. Just keep a tight line, and let it roll with the current.

Sunfish also like the protection of debris and fallen trees. Such water is just about impossible to fish without losing an occasional lure, but the possible rewards make the risk worthwhile. Ideally, such current should be in quiet water, but those obstructions will slow the current. Don't pass up such opportunities.

Old logs provide mid-stream fishing not unlike that of those big boulders, and those that lie in dead water close to shore always attract a few sunnies. So will weed beds, but the little fish seem to prefer other types of cover. Quiet water beneath overhanging vegetation is usually good.

River sunfish spawn in the spring when the water temperatures hit 60 to 70 degrees, and they build nests just as the better-known bluegills do. Fishing can be good during the spawning season, and the angler need not worry about harming the populations. River sunfish, like bluegills, tend to overpopulate.

The water it lives in has much to do with the food value of the yellowbreast, but taken from clean, clear streams, the sunny is every ounce as tasty as the bluegill.

I like to fillet the little fish. They are not large, but the bigger ones are good for a pair of delicious fillets, and nothing will taste better on that overnight river trip when the bass you had planned to catch for dinner didn't cooperate. □

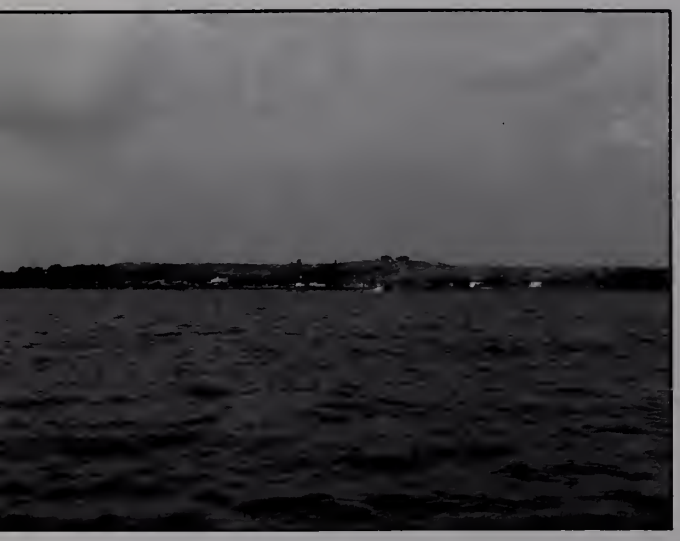
TRASH To Fishes

Mt. Trashmore Park in Virginia Beach has an unusual history, and Commission fisheries biologists are working to improve the fishery at Lake Trashmore.

by Ron Southwick
photos by Spike Knuth

"One man's trash is another man's treasure." That old saying could be applied to a special lake located in the city of Virginia Beach. In 1966, the city began coverting an existing refuse dumping site into a useful recreational area by building a hill from the solid waste material and covering it with a layer of dirt. This mountain of trash, which was aptly called "Mt. Trashmore," was to be the focal point for Mt. Trashmore Park. The borrow pit formed by the excavating of dirt needed to cover the hill became known as "Lake Trashmore." Presently, Mt. Trashmore Park is Virginia Beach's largest recreational area (162 acres), and attracts over 280,000 visitors annually.

The initial fisheries survey in 1978 conducted by biologists of the Commission of Game and Inland Fisheries found the lake populated with carp, white perch, gizzard shad, sunfish and bullheads. These species made their way into Lake Trashmore via a drainage ditch which backs up to the lake. Because no major predatory fishes were inhabiting the lake, an overpopulation of stunted sunfish and white perch became a problem. This situation, along with a large number of carp, made Lake Trashmore unappealing to sportfishermen.



(Top) Biologists using gill nets to sample the fish population of Lake Trashmore. (Above) View of Mt. Trashmore across the lake bottom.

The Commission initiated a fish stocking program in Lake Trashmore in 1978. Largemouth bass were introduced in 1978 and 1979. Channel catfish were stocked in 1979 and 1982. Walleye and striped bass have been stocked annually since 1979. Two years' stocking of largemouth bass and channel catfish should be sufficient for these species to naturally reproduce in the lake. However, walleye and striped bass will not reproduce in Trashmore so they must be stocked annually to maintain adequate numbers in the population.

The topography of Lake Trashmore presents a problem for developing a high-quality, well balanced fishery. The lake basin resembles a deep, flat-bottom bowl. The steep, sloping sides inhibit plant growth and provide little natural fish cover, little spawning area and limited production of benthos (organisms that live on or in the bottom of bodies of water). In cooperation with the city's Parks and Recreation Department, the Game Commission placed two artificial reefs in Lake Trashmore in 1975 and another in 1981. The reefs were constructed by tying auto tires into triangular-shaped units and weighting each unit with a masonry block. The units were placed in 10 to 15 feet of water. These structures would serve to attract fish by providing needed cover for many of the smaller species. Larger, predatory fishes would be attracted to these areas in search of food, and in turn, make these reefs excellent places for fishing.

The fish population in Lake Trashmore was monitored in 1980 and again in 1983. Results from these samplings showed good survival and growth of stocked fish. Many walleyes in the three- to four-pound class were found congregating near the artificial reefs, along with crappie, bluegill and channel catfish. Young bass and catfish were also found, showing these two species are reproducing on their own in Lake Trashmore which should provide good fishing for years to come. Although the striped bass stocked in Trashmore are still smaller than the 20 inch minimum legal size limit, the population appears to be satisfactory and within the next few years these fish will be an exciting addition to fishermen's creels.

Lake Trashmore has all the right ingredients to become a highly successful urban fishing lake. It is located in one of Virginia's most populated areas. The city of Virginia Beach is now the fastest growing city in the state with a population of just over 283,000. Combined with the adjoining cities of Norfolk, Portsmouth and Chesapeake, the total population within a short drive of Lake Trashmore is approximately 800,000. The lake is highly visible and easily accessible from several major roads in Virginia Beach. Ample parking, picnic areas, playgrounds and a food concession are provided by the city's Parks and Recreation Department. These facilities attract large numbers of people, and Lake Trashmore affords many men, women and children the opportunity to enjoy sport fishing.

Since the lake's area is small—52 acres—no private boats are allowed. However, boat rentals are available and bank fishing is permitted around most of the lake's shoreline. □

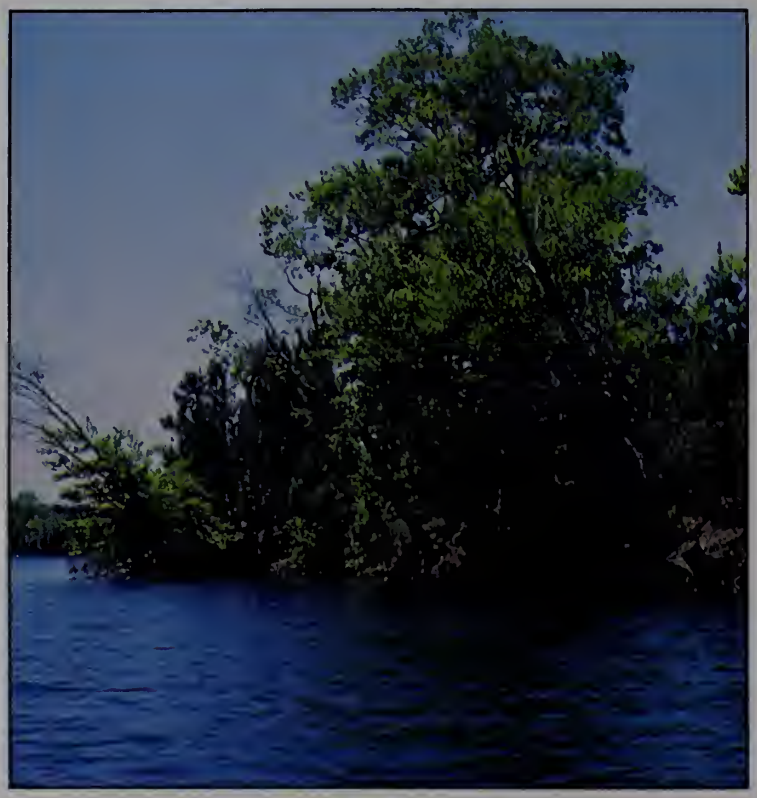
photos by Spike Knuth

LAKE

Of Many Faces

Western Branch Reservoir offers good fishing and a variety of species—and it's getting better all the time.

by Mitchell Norman



(Top) Western Branch is so-named because it is formed by the impounded waters of the Western Branch of the Nansemond River. The Branch, as it is often called, is deep by Coastal Plains lake standards, having a maximum depth of 51 feet. It boasts healthy populations of stripers (above) as well as muskies, largemouth bass, crappies, bream and pickerel.

I felt kind of silly lying in the bottom of the boat with the outboard motor between my legs. I felt even sillier as I pushed my way under the low bridge as the swallows gazed down from the bridge structure, obviously wondering what I was. Yet, when the water level is up a little this is the only way you can get your boat from the launching point into the lake proper. There simply isn't enough clearance under the bridge unless you take your motor off the transom and place it on the floor of the boat.

To be sure, this is going fishing the hard way, but it is worth it if the lake you are trying to reach is Western Branch Reservoir.

Few lakes in Virginia rival this reservoir for variety and productivity. Here, you may encounter anything from a giant musky or landlocked striped bass to a school of crappie, with loads of largemouth bass, plate-size bream or citation-size pickerel in between.

Western Branch is probably one of the best kept fishing secrets in Virginia. It is a secret that is becoming increasingly difficult to keep, however, because the fishing here is getting better all the time. However, the 15-horsepower motor limit on the lake combined with the marginal boat launching facilities have discouraged owners of the more sophisticated bass boats from using the lake. This is john boat country and some smart john boat fishermen take great advantage of that.

Located just west of Suffolk, Western Branch is the newest and the largest of three water supply reservoirs for the City of Norfolk in the valley of the Nansemond River. It was built in 1962 and covers an area of 1,579 acres. It has a maximum depth of 51 feet, quite deep for lakes located on the relatively flat coastal plain of southeast Virginia.

The lake comes by its name honestly, formed by the impounded waters of the Western Branch of the Nansemond River. It is often referred to as "The Branch" by many local anglers.

The reservoir forms the center of a horseshoe-shaped series of three reservoirs, flanked to the north by 600-acre Burnt Mills Reservoir which was built in 1941 in the Great Swamp Drainage. To the south lies well known Lake Prince, a 777-acre reservoir impounded in 1921 on the Carbell Swamp and Ennis Pond drainages of the Nansemond River.

Although there are plans to provide a new boat ramp and concession building at a better location on the lake, the existing facilities are rather limited. Rental boats are not available and shore fishing is not allowed. Only boat owners with the appropriate permits from the City of Norfolk can fish the lake. Annual permits can be purchased at the Western Branch Pumping Station located on Route 10, just south of Reids Ferry. Daily permits are available at the Lake Prince Fishing Station on Route 604, which is just about two miles north of Route 460 in Suffolk.

Fishing on the reservoir, in fact on all three reservoirs, is permitted only from sunrise to sunset. Local county stores offer bait and refreshments. There are no concessions presently at Western Branch. The boating access is at one site only, off Route 603 near the village of Everetts, about three miles west of Chuckatuck. The dirt and gravel ramp is located just below the Burnt Mills Dam in a small body of water. Although there is ample parking, it is often a tight squeeze getting a boat under

continued on p. 35

between the ribs and tail. After you cut along the backbone, the knife will come out just above the tail fin. You should now be able to lift free one side of the fish complete with skin, scales, and half a rib cage.

Now lay the fillet scale side down. Start at the top of the rib cage, where it was attached to the backbone, and with a sawing motion, slip your knife under the ribs in order to separate the rib cage from the fillet (figure 3). The rib cage should come off in one piece.

Next, with the fillet scale side down and the tail pointing toward you, place two fingers at the tip of the tail section to hold the fish in place. Cut at an angle through the flesh down to the inside of the skin. Then turn the knife, keeping it at a very slight angle to the skin, and with a sawing motion slowly cut the length of the fish (figure 4). Be sure to keep the knife edge against the inside of the skin to separate all the flesh from the skin. The skin with scales still attached should come off in one sheet. You now have a beautiful boneless fillet. Repeat the procedure on the other side of the fish to get the other fillet.

4

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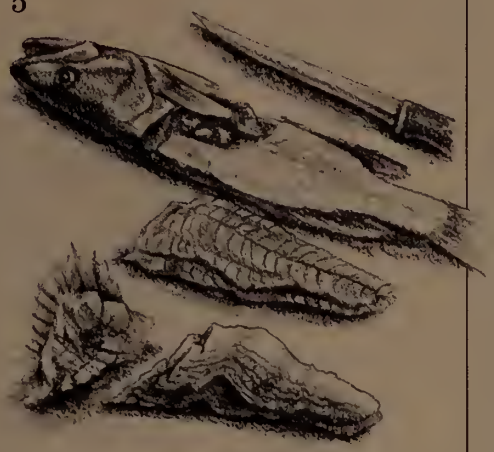

There should be very little mess to clean up. What is left to throw away is merely the body of the fish (entrails still intact), two sheets of skin with scales still attached, and two half rib cages (figure 5). No scales, blood, or other unpleasantries to clean up! Rinse the fillets and they're ready for cooking or freezing. By using this method, you can avoid beheading, gutting, and scaling the fish. It's not nearly as messy as some other methods and much quicker. The fillets will be boneless, easy to cook, and a joy to eat.

Try this method and I think you'll find more fish on the table and have more fun putting them there. Good fishing and good eating. □

Tips For Cooking and Serving Fish

Fish are delicious—if cooked properly. We cook fish to develop their flavor, to soften the small amount of connective tissue present, and to make the protein easier to digest. Cooking fish at too high a temperature or for too long a time toughens them, dries them out, and destroys their fine flavor.

How can you tell when fish are cooked? Raw fish have a watery, translucent look. During the cooking process the watery juices become milky colored, giving the flesh an opaque, whitish tint. This color change is unmistakable. When the flesh has taken on this opaque whitish tint to the center of the thickest part, fish are completely cooked. At this point the flesh will easily separate into flakes, and if there are bones present, the flesh will come away from them readily.

Most cooked fish tends to break up easily, so handle fish as little and as gently as possible during and after cooking to preserve their appearance.

Here are some methods for preparing fish; smoking is covered in a separate section on page 2a.

Baking: Baking is a form of dry heat cooking and is one of the easiest ways to cook fish. But "bake fish easy" is the most important guide to follow in fish cookery. Fish like a preheated, moderate oven set at 350° for a relatively short period of time. This keeps the moistness and flavor in the fish, prevents drying, and keeps the fish tender and palatable. Fish not baked in a sauce or with a topping are basted with butter or oil to keep the surface moist.

Can fish be baked from the frozen state? Yes, provided the cooking time is increased to allow for thawing during the baking process and provided the recipe does not call for special handling such as stuffing or rolling.

Broiling: Broiling, like baking, is a dry heat method of cookery but in broiling the heat is direct, intense, and comes from only one source. Thin foods tend to dry out under the broiler, so when planning to use this method, choose pan-dressed fish, fillets, or steaks which are about 1 inch thick in preference to the thinner ones. If frozen, the fish should be thawed. Baste fish well with butter or oil or with basting sauce before placing them under the broiler. Baste again while broiling to keep the fish moist.

Follow the range manufacturer's directions for the operation of the broiler and preheating. The length of time it takes to broil fish depends on the thickness and the distance they are placed from the heat. As a general guide, have the surface of the fish about 3 to 4 inches from the source of heat and place thicker cuts farther from the heat than thin ones.

Cooking time will usually range from 10 to 15 minutes to reach the "fish flake easily" stage. As a rule, the fish do not need to be turned because the heat of the pan will cook the underside adequately. Turn the thicker pieces, such as pan-dressed fish, when half the allotted cooking time is up. Baste again. Always serve broiled fish sizzling hot.

Charcoal Broiling: Charcoal broiling is a dry heat method of cooking over hot coals and in recent years has become a popular form of recreation. Fish, because they cook so quickly, are a natural for this method of cookery.

Pan-dressed fish, fillets, and steaks are all suitable for charcoal broiling. If frozen, the fish should be thawed in advance. Because fish flake easily as their cooking nears completion, use of a well-greased, long-handled, hinged wire grill is recommended.

Since charcoal broiling is a dry heat cooking method, thicker cuts of fish are preferable as they tend to dry out less during the process than thin ones. Also, baste the fish generously with a sauce that contains some fat before and while cooking to keep the fish juicy and flavorful.

Fish are usually cooked about 4 inches from moderately hot coals for 10 to 20 minutes, depending on the thickness of the fish.

Frying: Frying is a method of cooking food in fat. For frying, choose a fat that may be heated to a high temperature without danger of smoking. This is necessary because a smoking fat begins to decompose and will

give the food an unpleasant flavor. Vegetable oils and fats are preferable to fats of animal origin. (Note Price Smith's cautions beginning on page 7.)

The temperature of the fat is extremely important. Too high heat will brown the outside of the fish before the centers are cooked. Too low heat will give a pale, greasy, and fat-soaked product. The most satisfactory frying temperature for fish is 350°F.

Frozen fish must be thawed before frying. Separate the pieces and cut to uniform size.

After frying, drain the fish immediately on absorbent paper to remove excess fat. Keep the fish warm in a low oven until all pieces are cooked, then serve immediately.

Deep-fat frying: Deep fat frying is a term applied to cooking in a deep layer of fat. It is a quick method of cooking and is an excellent way to cook tender foods and precooked foods.

For deep-fat frying you need a heavy, deep saucepan or French fryer with straight sides, a fry basket to fit the fryer, a deep-fat frying thermometer, or an electric fryer with automatic temperature control. Use enough fat to float the fish but do not fill the fryer more than half full. You must allow room for the fish and for the bubbling fat.

The fish may be dipped in a liquid and coated with a breading, or dipped in batter. The coating will keep the fish moist during frying and will give them a delicious crispness.

Place only one layer of fish at a time in the fry basket and allow enough room so that the pieces do not touch. This prevents the temperature of the fat from dropping suddenly and assures thorough cooking and even browning. When the fat has heated to the proper temperature, lower the basket into the fryer slowly to prevent excessive bubbling. If the fat is at the right temperature when the fish are added, a crust forms almost immediately, holding in the juices and at the same time preventing the fat from soaking in. Fry until the fish are golden brown and flake easily, usually about 3 to 5 minutes.

Oven-frying: Oven-frying is not actually a true frying method but a

hot oven method. Oven-fried fish resemble fried fish. This method of cooking fish was developed by Evelene Spencer, a former Bureau Home Economist, and is sometimes referred to as the Spencer method.

For oven-frying, the fish are cut into serving-size portions, dipped in salted milk, and coated with toasted, fine, dry crumbs. The fish are then placed on a shallow, well-greased baking pan, and a little melted fat or oil is poured over the fish, which are baked in an extremely hot oven (550°F). Nice features of oven-frying are that the fish don't require turning, basting, or careful watching, and that the cooking time is shorter, usually 10 to 15 minutes. The crumb coating and the high temperature prevent flavorful juices from escaping and give an attractive brown crust.

Pan-Frying: Pan-frying is a term applied to cooking in a small amount of fat in a frying pan. Of all the ways of cooking fish, pan-frying is probably the most frequently used—and most frequently abused—method. When well controlled, it is an excellent way of cooking pan-dressed fish, fillets, and steaks.

The general procedure is to dip the fish in a liquid and then coat them with a breading. Heat about 1/8 inch of fat in the bottom of a heavy frying pan. For pans with a temperature control, the right temperature is 350°F. Place one layer of breaded fish in the hot fat, taking care not to overload the pan and thus cool the fat. Fry until brown on one side, then turn and brown the other side. Cooking time will vary with the thickness of the fish. In general, allow about 8 to 10 minutes.

Poaching: Poaching is a method of cooking in a simmering liquid. In poaching, the fish are placed in a single layer in a shallow, wide pan such as a large frying pan, and covered lightly with liquid. The liquid used in poaching may be lightly salted water, water seasoned with spices and herbs, milk, or a mixture of white wine and water, to name just a few. As with other methods of fish cookery, it is important not to overcook the fish. Simmer the fish in the liquid in a covered pan just until the fish flakes easily, usually 5 to 10 minutes. Because the poaching liquid contains flavorful juices, the liquid is often reduced and thickened to make a sauce for the fish.

Poaching is a favorite method of cooking fish—and with good reason. As an entree, poached fish can be served simply with a sauce or used as the main ingredient of a casserole or other combination dish. Chilled and flaked, poached fish makes a delicious salad.

Steaming: Steaming is a method of cooking fish by means of the steam generated from boiling water. When cooked over moisture in a tightly covered pan, the fish retain their natural juices and flavor. A steam cooker is ideal, but any deep pan with a tight cover is satisfactory. If a steaming rack is not available, anything may be used that prevents the fish from touching the water. The water used for steaming may be plain, or seasoned with various spices, herbs, or wine. When the water boils rapidly, the fish are placed on the rack, the pan is covered tightly, and the fish are steamed for 5 to 10 minutes or until they flake easily when tested with a fork. Steamed fish may be served in the same way as poached fish.

If you want to give your fish a "little something extra," you might try one of these sauces to garnish prepared fish.

Cocktail Sauce

1/2 cup catsup
1 tablespoon horseradish
1/2 teaspoon celery salt
6 tablespoons lemon juice
3 drops hot pepper sauce
1/4 teaspoon salt

Blend all ingredients and chill.

Tartar Sauce

1/2 cup mayonnaise
1 tablespoon pickles, minced
1 tablespoon olives, minced
1 tablespoon onion, minced
1 tablespoon parsley, minced

Mix thoroughly and chill.

Remoulade Sauce

1/4 cup tarragon vinegar
2 tablespoons prepared brown mustard
1 tablespoon catsup
1 1/2 teaspoon paprika
1/2 teaspoon salt
1/4 teaspoon cayenne pepper
1/2 cup salad oil
1/4 cup chopped celery
1/4 cup chopped green onion
1 tablespoon chopped parsley

In small bowl combine vinegar, mustard, catsup, paprika, salt and cayenne. Slowly add salad oil, beating constantly (may also be done in blender). Stir in celery, green onion, and parsley. Allow to stand 3-4 hours to blend flavors. Makes 1 1/4 cup sauce.

Blender Hollandaise Sauce

3 egg yolks
2 tablespoons lemon juice
dash cayenne pepper
1/2 cup margarine or butter

Place egg yolks, lemon juice and cayenne pepper in blender container. Cover; quickly turn blender on and off. Heat margarine until melted and almost boiling. Turn blender on high speed; slowly pour margarine in, blending until thick and fluffy, about 30 seconds. Heat over warm, not hot, water until ready to serve. Makes 1 cup.

Blender Bearnaise Sauce

1 tablespoon chopped green onion
2 teaspoons lemon juice
1/4 cup dry white wine
1/2 teaspoon dried tarragon leaves
1/4 teaspoon dried chervil leaves
3 egg yolks
1/8 teaspoon cayenne pepper
1/2 cup margarine or butter

In small saucepan combine green onion, lemon juice, white wine, tarragon, and chervil. Simmer until mixture is reduced to about 2 tablespoons. Cool. Place egg yolks, cayenne and herb mixture in blender container. Cover; quickly turn blender on and off. Heat margarine until melted and almost boiling. Turn blender on high speed; slowly pour margarine in, blending until thick and fluffy, about 30 seconds. Heat over warm, not hot, water until ready to serve. Makes 1 cup.

Mustard Sauce

1/4 cup margarine or butter
3 tablespoons all-purpose flour
1 1/2 tablespoons dry mustard
1/2 teaspoon salt
1/4 teaspooon liquid hot pepper sauce
2 cups half and half
1 egg yolk, beaten

In a saucepan melt margarine. Blend in flour, mustard, salt and liquid hot pepper. Gradually stir in half and half; cook until thickened, stirring constantly. Heat until thickened. Serve sauce over fish. Makes approximately 2 cups.

Here are two dips you can make with fresh or canned shellfish.

Clam Dip

7 ounces minced clams
2 packages (3 ounces each) cream cheese
1/4 teaspoon salt
2 teaspoons grated onion
1 teaspoon Worcestershire sauce
3 drops hot pepper sauce
2 teaspoons lemon juice
1 teaspoon chopped parsley

Drain clams. Save liquor. Soften cheese at room temperature. Combine all ingredients except potato chips and liquor; blend into a paste. Gradually add about 1/4 cup clam liquor and beat until consistency of whipped cream. Chill. Makes about 1 pint dip.

Crab Dip

1 cup mayonnaise
1/2 cup sour cream
1 tablespoon chopped parsley
8-12 ounces crab meat
1 tablespoon sherry
1 teaspoon lemon juice
salt and pepper

Combine all ingredients and chill. Makes 2 cups.—*Courtesy VPI & SU, Department of Food Science & Technology*

About the Authors

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the 603 bridge and into the main lake. In very high water conditions the clearance is often too low to permit passage by any kind of boat. At normal water level, however, it isn't too bad.

When Western Branch Lake first opened for fishing, 20 citation pickerel weighing four pounds or more were caught in December 1966. In January of '67, the total caught was 39. In February, 23 were taken and in March 11 more were weighed in. This made a total of 93 citation pickerels in four months! With this explosive opening, anglers have been looking for great things from Western Branch Lake—and they have been getting them.

Since it opened to fishing in late 1966, until 1982 this reservoir has produced 176 citation largemouth bass, 53 citation channel cats, 29 citation striped bass, five citation muskies, 15 citation bream, 27 citation bowfin, five citation yellow perch, nine citation carp, three citation crappie, 24 citation gar and six citation white perch. How's that for variety?

A creel survey conducted by the Virginia Game Commission in 1982 found that 22 fish species were taken by anglers. Compare this to an average of 10 on most waters. Against a standard for most lakes which produce about a half-pound of fish per hour of fishing, or two pounds per angler trip, Western Branch was found to be producing better than three quarter-pounds per fish per hour and 4.4 pounds per trip.

As you might suspect, the largemouth bass is the leading native game fish in the reservoir. Other abundant natives include the bluegill, redbreast and pumpkinseed sunfish and the black crappie. Less abundant bream (sunfish) include the redear, flier and warmouth. After the great start when the lake was first opened, pickerel slowed down dramatically.

The great pickerel population, which was encountered as the lake first opened for fishing were natives of the old river which was flooded as the lake filled. As the habitat changed from a river to a lake environment, the pickerel population declined. The reason for the decline, specifically, was the loss of the spawning habitat. Pickerel required submerged vegetation upon which to deposit their eggs. The vegetation was plentiful in the old river, but not in the new lake. The result is poorer reproduction which meant a declining population.

Two popular panfish, white and yellow perch, are abundant in the Branch. White perch measuring 10 to 12 inches are average in fishermen's catches. Fish population sampling by Game Commission biologists has confirmed that the white perch are doing well here; they are not becoming over-populated and stunted, something that frequently happens to white perch populations in many lakes. The reason for this healthy condition is the abundance of large predatory fish that feed on white perch, keeping their numbers down. In addition to the perch, anglers often encounter nice channel and white catfish along with plenty of bullheads (mudcats).

The Game Commission's management strategy at Western Branch has centered around the stocking of our big "super-predator" species: striped bass, walleyes, northern pike and muskies. These species were introduced to provide anglers with some great trophies while providing the lake with additional predator fish to help prevent the more prolific pan and forage fish from becoming too abundant.

Striped bass have been stocked in the lake from 1975 on an annual basis and they have done very well. Survival and growth of the "rock" has been good, but more importantly, fishermen have welcomed the striper to Western Branch with open arms.

Many fish the Branch specifically for stripers. For example, the 1982 creel survey determined that 8.7 percent of the anglers interviewed came to the lake just to fish for stripers.

To date, the largest striper to come out of the lake weighed 19 pounds, 10 ounces. It was three feet long. Anglers took more than a half ton of stripers in 1982. Stripers were selected for stocking here because of the abundance of gizzard shad and alewives which are favorite foods of landlocked striped bass.

Because walleyes zero in on yellow and white perch, these good eating fish were also introduced into the lake, starting in 1976. Biologists believe that walleyes will be able to reproduce in the reservoir, eliminating the need for costly annual stocking.

There is every indication that the walleye is now well established in Western Branch, but most anglers have yet to discover them. Very few anglers fish specifically for them, probably because most anglers don't know they are there. Another factor limiting catches is the prohibition against night fishing. Walleye are largely night feeders, and anglers cannot take advantage of the prime time to fish for these delicious fish. They can be taken readily on dark days, however.

The 1982 creel census revealed that only 63 walleyes were taken, mostly less than a foot long and nearly all taken by accident while fishing for other species. In the near future, fisheries biologists will attempt to determine if walleyes are reproducing naturally. If reproduction is confirmed, the annual stocking of this species will be discontinued. We hope that anglers will begin to master the deepwater fishing techniques required to take this promising fish.

A few northern pike were stocked in the lake, but none have been reported taken by anglers yet, nor have any appeared in fish population samples taken by biologists. Biologists conclude that there were too few northerns planted for the size of the lake.

Muskies, however, are a different matter. Muskies were stocked in 1974, and 1983 and many appear to be happy here, growing to true trophy size. One weighing 16 pounds, three ounces, measuring 40 inches was taken in a fish population sample in 1979. This fish was from the 1975 stocking. Five citation muskies have come out of the branch since 1980. Musky stocking will continue for a few more years and then it will be re-evaluated.

In the meantime, anglers casting their baits and lures on this great lake must always be prepared for a heart-stopping strike from the recognized king of freshwater gamefish, a fish that is capable of providing as spectacular a fight as any freshwater game fish anywhere.

So there you have it, Western Branch, a lake of many faces. It can provide you with a day of quiet panfishing in a secluded cove or a day of fast action with the lakes huge bass population. Or it can challenge you as you seek a husky striper or it can scare you half to death when the tooth-studded maw of a husky musky grabs your bass lure and makes off with it. Come try the Branch—but be ready for anything! □